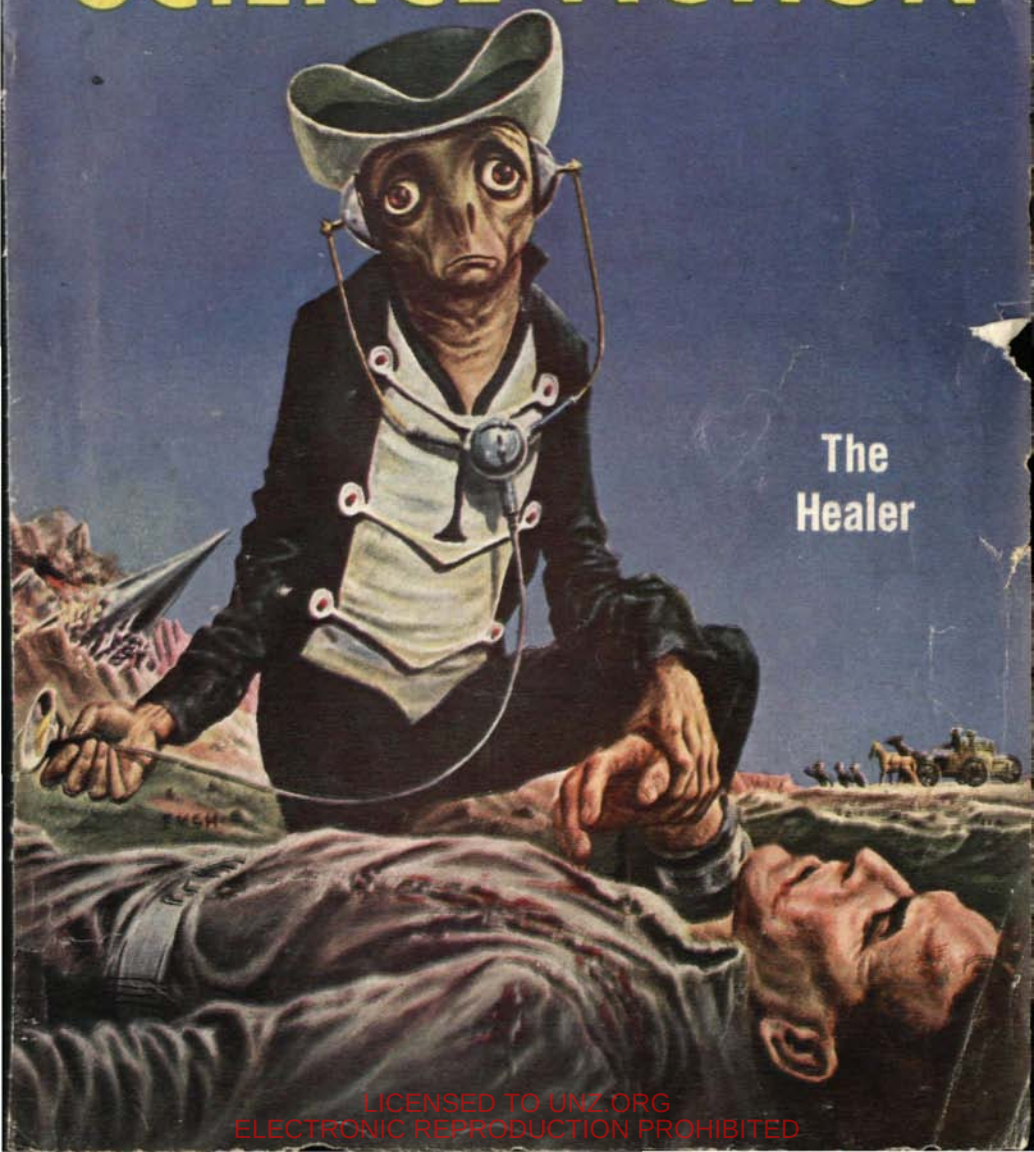


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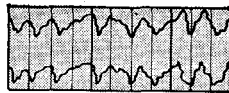
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THE VALUE OF PANIC

There's a well-known and well-hated law of laboratory experiment that goes, "In a laboratory experiment, if something can go wrong . . . it will."

"Wrong" in this sense usually means that a random factor gets in, where none is supposed to be. And random factors, by definition, can do anything. It could even improve the results of the experiment, of course.

Dr. Wayne Batteau, of the Harvard School of Applied Science, has been studying the basic structure of the scientific method from the viewpoint of Information Theory analysis. One of the interesting logical results—translated from symbols into English—is "In total ignorance, try anything. Then you won't be so ignorant."

Let's add a third item; all higher animal life-forms display the characteristic that, when under extreme environmental pressure, they can go into panic behavior, acting with great violence and determination in

a manner entirely different from the normal behavior patterns of the organism. This applies all the way up to and including man.

Usually, panic behavior is characterized by its ineffectiveness or complete inappropriateness. The woman who tosses the mirror out the window of her burning home, and carries the pillow carefully down the stairs, is essentially similar in behavior to the chicken that, panicked by the rapidly approaching automobile, runs frantically, squawking, for home . . . into the path of the car.

Panic certainly appears to be an utterly negative, useless, and destructive characteristic, and has almost invariably been so labeled.

Maybe it isn't, though. If it were so completely useless, why would three billion years of evolution have yielded organisms which, quite uniformly, retain the characteristic?

Perhaps Dr. Batteau's statement of the case is applicable. Given: An organism with N characteristic behavior modes available. Given: An

environmental situation which cannot be solved by any of the N available behavior modes, but which must be solved immediately if the organism is to survive. Logical conclusion: The organism will inevitably die. But...if we introduce Panic, allowing the organism to generate a purely random behavior mode *not* a member of the N modes characteristically available?

When the probability of survival is zero on the basis of all known factors—it's time to throw in an unknown. Panic is not logical—but it is most exceedingly sensible, as a basic mechanism of evolution!

If an organism is being attacked by a predator, the predator has a plan of campaign all figured out. It knows the characteristic behavior of its prey, what its defensive and evasive maneuvers are, and how to compensate those variables. For the predator, it's a sort of laboratory experiment.

But the experiment can go wrong, if the victim can introduce a purely random, uncompensated, and unpredicted factor. It *might* cause his survival.

Panic behavior is, necessarily, unlikely to yield useful results—the probability of any particular random act leading to success is pretty small. But—an organism doesn't use panic in a random fashion; it uses the panic mechanism only after all known, high-probability methods have been ruled out as having no probability of success. Under those conditions, panic has the maximum probability

of success, simply because it never has a zero probability!

If I ask the question, "What number am I thinking of?" you have a certain, extremely small chance of guessing the right answer. But if you answer "Isaac Newton," the probability of that being correct is, obviously, zero. When a certain pattern is specifically, and positively known to be a wrong answer, then any random pattern has a higher probability.

These simple facts have a very great bearing on an important human problem; the problem of the quack doctor, particularly the cancer quack. The method of attack on the problem now being used specifically has zero probability of success; it is inherently futile to pass laws against him, because three billion years of evolution have established that his function is necessary!

Consider this: John Brown, rich bachelor, without family, is found to have cancer. It happens to be a type which cannot be treated by surgery, radiation, or drugs; it is inoperable, incurable, and inevitably lethal. The best and most competent medical experts examine him, and assure him that there is nothing that medical science can do.

If John Brown is a sane, rational man, and believes that his doctors are competent and expert, he will recognize that it is now time to go into panic. He will reject any fur-

(Continued on page 160)



THE PROMISED LAND

But why were the Earthmen working at setting up that School . . . what were they seeking to gain in their manipulations of the people of Nidor . . . ?

BY ROBERT RANDALL

Illustrated by van Dongen

They were having something of a ceremony. Out on the lawn in front of the main building of the Bel-rogas School of Divine Law, they were celebrating the school's anniversary. On this date, sixty-one years before, the Earthmen had come down from the sky to help bring the Law to the people of Nidor.

Sindi geKiv Brajjyd, who was in her first year of study at the school, stood in the shadows of the stable behind the great building and watched the multitude out front. All she could think of was the way they were crushing the grass on the lawn. It seemed a silly and overly sentimental thing, all this speech-making.

She patted the smooth flank of her deest. "There, boy," she said, "I'm bored, too." The graceful animal snorted and nosed up against the hitching post as if he were anxious to be almost anywhere else but where he was.

That was the way Sindi felt too, she decided, as her sharp eyes picked out the earnest face of her father. He was seated out front. Kiv, like a good alumnus and responsible leader of Nidorian society, had, of course, come to Bel-rogas to take in the festivities. Right now he was watching the speaker as if he were the Great Light Himself.

As a matter of fact, the speaker actually was Grandfather Drel peNibro Brajjyd, the current Brajjyd representative on the sixteen-man Council of Elders. Grandfather Drel peNibro had succeeded to the Nidorian ruling body some ten years

earlier, on the death of the venerable Bor peDrogh Brajjyd. Sindi could still remember the gnarled, silvered old man who had headed their clan in the years before the accession of Drel peNibro. She had seen Grandfather Bor peDrogh preside over an important religious function only a few weeks before his death. That had been when she was seven.

Grandfather Drel peNibro was a pompous, somewhat self-important old man who loved making speeches at ceremonial occasions. Sindi was aware of her father's private opinion of him—that he was a tradition-bound, unintelligent old man who had succeeded to the Council solely because he had outlasted all of the deserving contenders. Kiv, who was a priest in Drel peNibro's entourage, had let that opinion drop once, and had done his best to cover for it. But Sindi had noticed it, and it formed part of her mental approach toward the Nidorian Grandfatherhood that constituted the Council.

Sindi watched Drel peNibro from the shelter of the deest stable. He was wearing the full formal regalia of a Council member, a flamboyant outfit which seemed to Sindi a fairly silly affair and yet somehow still terribly impressive. His voice floated to her through the quiet air of the Nidorian midafternoon.

"This noble day," he was saying, and then his voice drifted away for a moment. In the distance, Sindi heard the chuffing of the Central Railway Extension that ran the five

miles from the Holy City of Gelusar to the Bel-rogas School.

Then his voice became audible again. Sindi managed to catch him as he said, ". . . Is our duty to express gratitude toward our benefactors. And yet we cannot do it directly. For whatever benefits the Earthmen have brought us, these sixty-one years, are creditable, not to them—let me make that clear, not to them, but to the Agent of their arrival on our soil."

The Elder looked upward. The assembled multitude followed suit, and Sindi found herself doing the same thing. She scrutinized the iron-gray cloud layer which partially obscured the Great Light, but which failed to hide His effulgence completely from view.

Then Grandfather Drel peNibro went on. "The Bel-rogas School," he said, "in its sixty-one years of bringing the Law to the young people of Nidor, has served as an incalculably valuable—"

Sindi strained to catch the Elder's words, which were competing with the harsh breathing-sounds of the deest and the distant drone of the railway. As she leaned forward to hear better—because, though she was too independent a girl to take part willingly in any such foolishness as the anniversary ceremony, she was far too curious about everything to let a word of it escape her ears—as she leaned forward, a new voice came from directly behind her, startling her.

"Sindi? What are you doing here?"

She whirled and saw a tall, grave-looking man dismounting from a deest and reaching for a hitching rope. He was pale-skinned, dark-eyed, and bearded. He was Smith, one of the Earthmen who guided the operations of the Bel-rogas School.

"Hello, Smith," Sindi said uncertainly.

Smith drew a cloth from his pocket and wiped his face. He was sweating heavily, as most of the Earthmen did in Nidor's moist air. Sindi saw that his deest was near the point of exhaustion. Obviously, Smith had had a long, hard ride from somewhere.

"Why aren't you out there listening to the Grandfather?" Smith asked. His voice was kind and gentle, like those of all the other Earthmen. "All of the students belong out there, you know. You should be with them."

Sindi nodded absently. "My father's out there, too," she said.

Suddenly Smith moved very close to her, and she became conscious of his curious Earthman odor. His eyes were weary-looking, and his beard needed combing. He looked at her for a long time without speaking.

"Tell me," he finally said, "*why* you aren't out there with everyone else. Why aren't you with them?"

Sindi slowly rubbed her hand back and forth over her deest's flank. "Because," she said thoughtfully, not wanting to get into any more trou-

ble than she was already in. "Just because."

"That's not enough of a reason," the Earthman said. Suddenly Sindi felt terribly small and young next to him.

"It bored me," she said. "I just didn't want to have to sit out there all day and listen to—" she paused, horrified at herself.

"And listen to the Elder Brajjyd," Smith completed. He smiled. "Ah, Sindi, how your father would like to hear you say that!"

She shot a panicky glance at him. "You wouldn't tell him, would you? I didn't mean anything by it! Smith . . . Smith—"

"Don't worry," Smith said. He reached out and patted her shoulder, caressing the soft golden fuzz that covered it. "Suppose you go over now and take part in the rest of the ceremony, and let me worry about the secrets to keep."

"Thanks, Smith," she said levelly, all fear suddenly gone. "I'll go out and hear what the Elder has to say." She thumped her deest fondly, smiled at the Earthman, and walked toward the crowd.

Very carefully she tiptoed across the lawn and unobtrusively melted into the crowd. The Elder Brajjyd was still speaking. His powerful voice rang out clearly and well.

"You see the products of this school around you," the Elder said. "The most valuable members of our priesthood; the leaders of our society; our most brilliant minds—we

may trace them all to the Bel-rogas School of Divine Law. I regret," said the Elder sadly, "that I, myself, was unable to attend the school. But before many years elapse, I think it is fairly safe to say, the Council of Elders will be constituted almost totally from among the graduates of Bel-rogas.

"I see among you today, in this very gathering, men who will undoubtedly hold Council seats one day. From my own clan alone I see several—there is that brilliant Bel-rogas alumnus, Grandfather Kiv peGanz Brajjyd, now one of the most valued members of my staff, and there are others here as well. And to whom do we owe this? To whom—"

The Elder's voice grew louder and more impassioned. Sindi threaded her way through the close-packed audience, searching for her father. She tried to remember where he had been sitting when she saw him from the stable, and headed in that general direction. The assembled Nidorians were sitting quietly and drinking in the Elder's words. He launched into a long quotation from the Scripture, which Sindi, almost as a reflex, recognized as being from the Eighteenth Section. As the Elder began to unfold the complexities of the quotation Sindi caught sight of Kiv again. There was an empty seat at his left where, no doubt, she had been expected to be sitting.

She edged through the narrow aisle and slid into the seat. Kiv nodded his welcome to her silently;

he had no intention of competing with the Elder.

"Thus, as it is said in the Scripture," the Elder went on, "'Those beloved of the Great Light shall hold tomorrow in their hands.' We must never forget this, my friends. May the Great Light illumine your minds as He does the world."

Drel peNibro stepped from the rostrum and took his seat. The assembly relaxed, easing the long tension built up while the Elder was speaking. Kiv leaned over to whisper to Sindi.

"Where have you been?" he asked harshly. "I've been expecting you all afternoon. You said you'd meet me for midmeal!"

"I'm sorry, Kiv," she told him. "I was busy in the labs and couldn't get free till just now."

"In the labs? On Commemoration Day? Sindi, if you're—"

"Please, Kiv," she said in annoyance. "I came as quickly as I could. Have I missed much?"

"Only the Elder Brajjyd's speech," Kiv said in a tone of heavy sarcasm. "He mentioned me. Apparently I'm back in his good graces for a while, no thanks to you."

"Father! You know I didn't mean to seem disrespectful, that day that I didn't give the grandfather the proper salute. It was only that I was late for classes, and—"

"Forget it, Sindi," Kiv said. "The Elder seemed quite upset about it at the time, but perhaps he's forgotten it. Meanwhile, I've brought someone I'd like you to meet." He

gestured to a strange man sitting at his left.

"This is Yorgen peBor Yorgen," Kiv said. "Yorgen peBor, this is my daughter, Sindi geKiv."

"Pleased, I'm sure," Yorgen peBor said, in a not-very-enthusiastic tone. Sindi muttered some similar sentiment.

"You may know Yorgen peBor's father," Kiv continued. "The Grandfather Bor peYorgen Yorgen. And you're aware who *his* father is, aren't you?"

Kiv's tone of voice left little doubt.

"The Elder Grandfather Yorgen peYorgen Yorgen, of course," Sindi said.

"Yorgen peBor, here, is his son's son. I'd . . . I'd like you two to get to know each other well, Sindi." Kiv smiled. What was on his mind was perfectly plain.

Rahn, Sindi thought, half-despairingly. *Rahn . . . I won't forget you, anyway.*

"Certainly, father," she said aloud, concealing her distress. "I'm sure Yorgen peBor and I will get along splendidly."

"I'm sure also," Kiv said. He gestured with his hand at the speaker's platform. "That's not Grandfather Syg going up there to speak, is it? Why, he was teaching here when I was going to the school!"

"That's who it is, none the less," said Sindi, watching the aged figure climb painfully to the rostrum. The old man, speaking in a dry, withered

voice, made some rambling prefatory remarks and embarked on a discussion of the wonderful past of Bel-rogas and the promise the future held. Sindi sat back glumly and contented herself with surreptitiously scrutinizing Yorgen peBor out of the corner of her eye.

So Kiv was going to marry her off, eh? His motivation in arranging such a match was perfectly transparent: Yorgen peBor was of the highest lineage, directly descended from the great Lawgiver, Bel-rogas Yorgen. Yorgen peBor's father was the Uncle of Public Works, a pleasant and well-salaried position to hold, and his father's father was the oldest and most respected member of the Council of Elders. Certainly a marriage into that clan would be advantageous for Kiv as well as Sindi.

But yet—

She examined Yorgen peBor, sizing him up as a prospective husband. He was big, not especially handsome in Sindi's eyes, though far from plain, and rather stupid-looking in a genteel sort of way. He promised a dull but pleasant kind of existence.

She thought of Rahn—penniless Rahn, whose father was a pauper. Oh, well, she thought. We could never have managed it anyway. Too many factors stood in the way of their marriage. And now, the biggest and bulkiest factor was Yorgen peBor Yorgen. With a marriage all but arranged, Sindi didn't dare tell her father she didn't like the idea.

She searched the crowd anxiously for Rahn, as Grandfather Syg droned on and on. *I'd like to see him once more*, she thought. *Just once.*

She glanced at her father, suppressed a little snort of rage, and sat back to hear what Grandfather Syg had to say. Yorgen peBor Yorgen appeared incredibly bored with the whole thing.

Smith stood beside Sindi's deest, his hand across the neck of the sleek animal, watching the ceremony with a slight smile on his face. He was still perspiring heavily.

Sixty-one years since the Earthmen had come. It was a magic number, sixty-one. Take three threes. To each, add one—making a total of three ones. That gives three fours. Multiply them together. Four to the third power—four cubed. Subtract three. Sixty-one.

Such is the power of numerology, Smith thought.

Someone stepped up beside him, shadowless in the suffused light that came from Nidor's skies.

Smith turned and grinned.

"What's up, Harry? You look worried."

The other Earthman, a tall, lean, hard-faced man with dark hair and greenish-gray eyes, nodded.

"I am," he said in English. "I've just come from Jones, and he's determined to go through with it. He says it's anthropologically justified, and you know Jones—anthropology all the way."

"He's going to do it, eh? A public

retirement. Well, I hope it'll be an impressive ceremony," Smith said. "We're going to miss him here."

The other Earthman smiled. "He won't actually be *gone*, you know. He'll still be available for planning."

Smith stiffened. "As far as you or I or anyone else on this planet is concerned, when Jones goes up into the clouds he's never going to be heard from again. Remember that, or we'll get into trouble."

The Earthman known as Harry grinned. "Don't worry. But I have the feeling none of you anthropologists trust the Genetics Division at all."

"Nonsense," Smith said. "How's your project coming, by the way?"

"As far as we can tell, this is the critical point in the program," said Harry. "If the Yorgen doesn't pan out as we hoped—"

Smith cut him off with a wave of his hand. "There's no point in worrying about it now. If the maneuver works out, it works out. If it doesn't, we wait."

The other man shrugged. "Genetics Division feels that at this point in Nidorian history, we have to make the best combinations we have at hand. That means the Yorgen and Brajjyd strains have to—"

Again Smith cut him off. "Let Anthropology worry about the historical lines, won't you? Watch the ceremony; it's rather touching."

The geneticist spread his hands. "All right. You're the boss. What sort of ceremony is it? I mean, what's the significance?"

"They're showing that they love us, damn it," said Smith tightly.

The celebration ended with a long ceremonial prayer. Sindi wanted desperately to close her eyes against the brilliance of the cloudy sky overhead, but she didn't dare to; her father would see. She didn't want to embarrass Kiv.

At last it was over. The assembly broke up, slowly, and Commemoration Day was over for another year. The multitude dissolved into little clumps of people.

Kiv turned to Sindi as the prayer ended. "Now it's over, and I can talk to you," he said. He leaned forward. "Tell me—your letters were all so vague. Do you find the school as wonderful a thing as I did, Sindi?"

"Wonderful?" She looked puzzled for a moment. "Oh, yes, of course, Kiv," she said. She had been enrolled for only three weeks. "I've been specializing in chemistry. It's very interesting. I have a little laboratory over in the back building, and I work there."

"A private laboratory?"

"No—not yet. They'll give me a private lab next year, if they like my work. No; I share it with another first-year man. We work very well together."

Kiv stroked his golden fuzz reflectively. "That's good to hear," he said. "What's her name?"

Sindi paused, then finally blurted out, "It's not a her, Kiv. His name

is Rahn peDorvis Brajjyd. He's a very good student."

"I see," Kiv said. Sindi could tell that he didn't care much for the idea at all. "Rahn peDorvis Brajjyd, eh? A relative, perhaps?"

"No," Sindi said. "I asked him that, as soon as I found out we were from the same clan. His people are from up north, from Sugon. We're not related at all."

Kiv frowned, and Sindi watched him anxiously, wondering what it was she had done wrong this time. "Strictly speaking, you know," Kiv said, "that's not true. All Brajjyds are related, no matter how distantly."

"Oh, Kiv!" Sindi was annoyed. "Don't be so technical all the time. So what if his grandfather ten generations back was a cousin of mine? We're actually not relatives at all, as far as anyone cares."

"As far as the Law cares, you are," Kiv said. "Don't forget that."

At this point Yorgen pebor Yorgen cleared his throat in a meaningful fashion, and Kiv frowned apologetically. "But here we are, quarrelling like hungry animals, and I've forgotten about poor Yorgen peBor. I'm sorry I was so impolite," Kiv said.

"You needn't apologize to *me*, sir," Yorgen said.

It was a good point, Sindi thought. In his overeagerness to be nice to Yorgen peBor, Kiv had committed something of a breach of etiquette by apologizing to him. No matter how grievously Kiv had offended the younger man, it was out of place

for a grandfather to apologize to anyone younger.

Kiv smiled inanely, trying to cover his blunder. He moved to one side to allow Yorgen to stand next to Sindi. "Suppose I leave you two here," Kiv said. "There are some old friends I'd like to look up. Tell me—is the Earthman Jones still here?"

"He is," said Sindi, "but he's pretty hard to get to see. He's always busy and doesn't get around to the students very much any more."

"He'll see me," Kiv said confidently. "Don't worry about that." He walked away across the lawn, leaving Sindi to cope with Yorgen peBor Yorgen by herself.

"What's chemistry?" Yorgen asked her, as soon as they were alone. His broad, heavy face reflected an utter lack of knowledge, and he seemed thoroughly complacent about the situation.

Sindi considered the prospect of spending the rest of her life in the well-meaning but clumsy embraces of Yorgen peBor Yorgen, and entertained some thoughts about her father and his political aspirations which were so vivid in their malevolence that she looked around fearfully to see if anyone had overheard.

Kiv followed the well-worn path to the main building, and entered the big Central Room where he and Narla had so often talked, twenty years before. It looked much the same as his memory told him it had been. The winding staircase leading

to the students' rooms still stood massively in the center of the hall, a glossy monument of black wood. The old familiar benches, the rows of books along the walls, the great windows through which the Great Light gleamed—they were all the same.

A boy came by with a stack of books under one arm. Kiv looked at him and felt a sharp twinge of nostalgia. The boy's body was bright gold and his eyes were wide and shining. He might have been the twenty-year-old Kiv come back to life.

Kiv stopped him. "Can you tell me," he asked, "where I can find the Earthman Jones?"

"Jones' office is upstairs," the boy said. "But he doesn't like visitors."

"Fine," said Kiv. "Many thanks. May the Great Light—"

But the boy must have been in a hurry. Before Kiv had completed his blessing, the boy had scooted away. Kiv shook his head sadly and climbed the well-worn stairs to Jones' office.

He paused before the door, then knocked twice, firmly. There was no reply from within.

He knocked again.

A soft, barely audible voice replied, "Who's there?"

"May I come in?"

There was no answer. Kiv waited five seconds, then knocked again. After a short pause, the answer came.

"Who are you, please?"

"Kiv peGanz Brajjyd," Kiv said loudly. Again, no response for a few

seconds. Then the door clogged open, and the soft voice said, "Come on in."

Kiv pushed the door open and peered in. Jones was standing behind the chair next to the door. Kiv remembered the tired-looking, strangely alien blue eyes, the short, almost arrogant little beard, the smooth Terran face.

"It's been twenty years," Kiv said.

"Has it been that long?" asked Jones. "I've barely noticed. It seems like it was just last week that you were here, and your wife . . . what was her name?"

"Narla."

"Narla. And you were doing research on insects . . . the hugl, as I recall, wasn't it?"

Kiv nodded. He stared at Jones.

"You're *old*," Kiv suddenly said. "I remember your beard—it was brown. Now it's silver—the way an Elder's body hair is."

Jones smiled. "The Great Light deals with all His subjects in one way," he said. "I have been on Nidor fifty years, Kiv. One's beard does turn to silver in fifty years."

He moved toward his desk, still littered with papers, and casually turned a sheet of paper face down, not concealing the action from Kiv.

"School records," he explained. "It wouldn't do for the parent of one of our pupils to see them. Confidential, you know. That is your daughter, of course? Sindi geKiv? A tall, very slender girl? I don't know

the students as well as I did in your day."

"Sindi's my daughter," Kiv acknowledged.

"A fine girl. She'll make a better scientist than her father, they tell me—and we know how good her father was! We don't see many hugl any more, do we, Kiv? Your technique wiped them out almost completely."

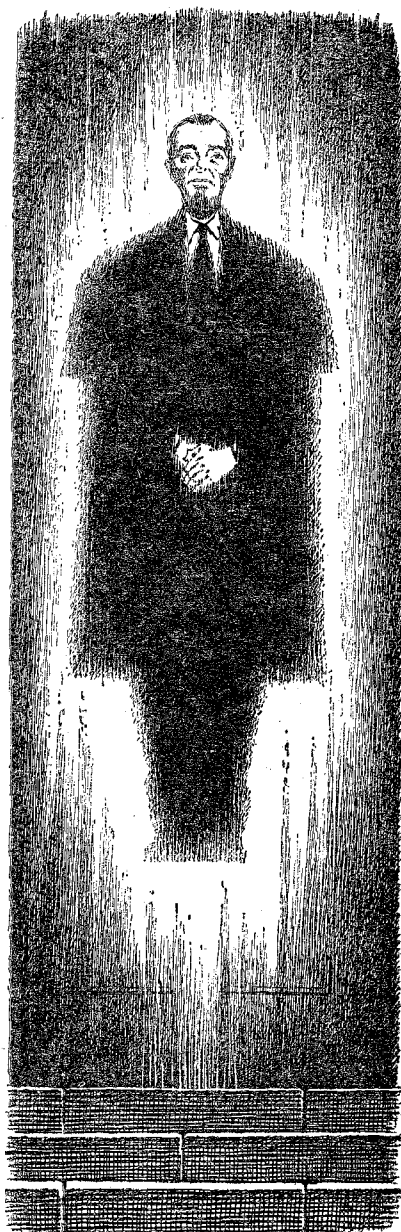
"I'd almost forgotten about that," Kiv said. "Almost. But I think of it every now and then. It was one of the high points of a life that's far behind me."

"It was a clever technique, as I remember it," said Jones. His face appeared dreamy, as if he were lost in reminiscences. "It involved altering an age-old Nidorian custom, the one of spraying the fields with Edris powder every time the hugl swarms came down to eat. You thought of spraying the lakes instead, and killing the larval hugl. You must be a hero among the farmers," Jones said. "The hugl is practically extinct."

"So are the Edris powder manufacturers," Kiv said. "My technique has destroyed their livelihood." His voice was sad. "They depended on the hugl raids to sell their goods. No more hugl, no Edris demand. It's made me sad to think of the changes in Nidor since my days at Belrogas."

Jones frowned. "It's made you sad? Why, Kiv? I thought you would be happy."

"I am a priest now," Kiv said.



"I'm no longer the young hothead I once was. And I see the patterns changing, and it frightens me."

"Have you talked like this to anyone before?" Jones asked abruptly.

"No . . . no," Kiv said. "I've only recently come to realize it, and I've been waiting for today for this chance to discuss it with you. It's not only the Edris manufacturers. Other things are changing, too. The way my daughter acts, for instance."

"Your daughter is merely a reflection of yourself, Kiv. Your thoughts, your opinions, all eventually are taken over by her. Is the failure yours, as a parent?"

Kiv studied his hands. Once again, Jones was the teacher, he was the blind, fumbling pupil. As it had been twenty years ago, when Jones had led him, prodded him, pushed him into the knowledge that had led him to end the hugl menace, he was at Jones' feet.

"Is the failure mine? How? I've lived by the Law and the Scripture—you taught me yourself. I've raised her with the greatest care. And yet . . . and yet—"

Jones stood up, chuckling. "You are the one who should be retiring, Kiv."

"Retiring? Are you retiring?"

"Soon," said Jones casually. "The Great Light wants me, I fear. But you're the one who should go. You have become a terribly old man very quickly. You sit here, protesting about the behavior of the younger generation, even though you know it's foolish to protest. *Your* parents

worried about the way you carried on, and Sindi's going to think *her* children are deviating from the Law. It's an inevitable pattern, bound up with growing old. But don't worry about it, Kiv. Sindi's a fine, Law-abiding youngster. She's a credit to you, Kiv, and don't ever forget it."

Kiv looked uneasily at the old Earthman. "I see these things, and yet you tell me—"

Jones put his hands on Kiv's shoulders. "Kiv, listen to me. The Edris manufacturers had to go. It was a natural evolution. You can't feel guilt over it; what if you hadn't come up with your technique? We'd *all* have starved by now, not just the Edris men. And your daughter's a good girl. Do you have any plans for her marriage, yet?"

"I'm considering a high member of the Yorgen clan," Kiv said. Once again he felt relieved; twenty years later, Jones was still a master at the art of removing burdens from his shoulders.

Jones moved a thin hand through his silvery chin hair.

"Have you made the formal arrangements yet?" he asked.

"Not quite," Kiv told him. "The Yorgens, after all, have a high position. It takes a great deal of negotiation. But the outlook is promising."

Jones looked out of the window at the fading glow of the Great Light and nodded slowly. "It would require a great deal, of course." He said nothing for a long minute, still staring at the silver glow of the sky.

After a while, he said: "What does Sindi think of this marriage?"

Kiv frowned. "What does she think of it? Why, I don't know. I haven't asked her. Why? Does it matter?"

Jones turned from the window and smiled. "No. Not in the least. Believe me when I say that this is probably the best decision you could have made."

Kiv smiled back. "Then you do approve of my choice for Sindi's husband?"

Jones nodded. "I do. Most emphatically, I do. I can't think of a better choice you could have made." His queer non-Nidorian eyes looked at Kiv. "You are improving, my boy. Even though you don't know what the Great Light intends for you, you are still doing His Will."

Kiv bowed his head. "May your forefathers bless you, Jones. May they bless you."

"Thank you, Kiv," said the Earthman. "And now, if you please, I would like to study. An old man must do many things in a short time."

"You're actually retiring, then?" Kiv asked.

"It's not something I'd joke about, Kiv. I feel that I've been called."

"We'll miss you," Kiv said sincerely. "And I'll miss you more than anyone else."

"Thank you," the Earthman said again. "And now—"

"Of course." Kiv bowed politely and left the Earthman's study.

When he returned to the courtyard, the crowd had already deserted it. Only Yorgen peBor stood there, leaning against one of the trees looking as though he couldn't care less that he was in the courtyard of the great Bel-rogas School. Kiv walked over to him.

"Yorgen peBor, where is Sindi?" he asked.

"I believe she has gone to her room, Grandfather," the young man said with an air of bored politeness. "She left me only a few minutes ago. To go to her room," he said.

He was wrong. That was the excuse Sindi had given him, but she had headed, instead, for the lab, very much pleased to rid herself of the company of Yorgen peBor Yorgen if only for a few minutes.

Rahn peDorvis Brajjyd was a tall, hard-muscled young man whose fine down of body hair was just a shade darker than Sindi's. He was sitting at one of the benches, absorbed in a textbook, when Sindi slid the lab door open.

"I thought I'd find you here," she said softly as he looked up. "Didn't you see the ceremony at all?"

He grinned at her. "No. My father wasn't one of the dignitaries, so he wasn't there to force me to go. I stayed here."

Sindi half frowned. "That's not fair, Rahn. Besides, I wouldn't have gone either if Smith hadn't caught me in the stables. He made me go."

"Too bad," he said, still grinning. "I hope you won't get into any trouble because of it."

"I won't. Smith's all right." She looked at him and smiled, then, as she struggled to think out what she had to say next.

"Rahn," she said finally, "do you know Yorgen peBor Yorgen?"

Rahn rubbed a hand over the soft down on his cheek. "I know of him, but I don't know him personally. Why?"

"What do you mean, you know of him?"

Rahn's shoulders lifted in a slight shrug. "He's rich and has money to burn. He's known to keep company with a girl named Lia gePrannt Yorgen, but don't go repeating that around. He's got the reputation of being a fast lad with a set of pyramid-dice and is known to take a drink or two occasionally. He has a sort of group of loyal followers from the . . . ah . . . poorer classes. They like his money. He's not too bright." Suddenly, he stopped and scowled at her. "Why? He's not coming to Bel-rogas, is he?"

Sindi shook her head. "No. I just wondered what he was like. He was at the ceremony, and I was introduced to him." She didn't feel like mentioning that it had been her father who had introduced her; Rahn would know at once what that meant, and she didn't want him to know—yet.

Again Rahn shrugged. "For all I know, he's a nice enough sort of fellow—just a little wild, that's all. I must say I envy him his money, though."

The girl put her hand on his. "Rahn, you're not going to bring that up again, are you?"

He shook his head and put his free hand over hers, holding it tight. "Sindi, when will you get it through your head that I don't blame you or your father for what happened to the family fortune?"

"But your father—"

"My father does, sure, but it was his own fault. If he hadn't been so stubborn, he'd have been all right. But he said that his father and his father's father and his grandfather's father had been Edris manufacturers, and his fathers before them for hundreds of years, and by the Great Light, he was going to go on manufacturing Edris powder.

"He just couldn't understand what had happened when your father found out a better way to use it and practically wiped out the hugl so that there wasn't any need for tons and tons of the stuff any more. My father got hung by his own product.

"But just because father can't accept change; just because he had to blame someone else for his own short-sightedness, that doesn't mean I feel that way."

"I know," she said, squeezing his hand. "But I—"

There was a sound at the door, and she jerked her hand away from his. She turned around just as Kiv entered the room.

"Hello, father," she said sweetly, managing rather successfully to cover up.

"I wondered where you were,

Sindi." He looked at Rahn and smiled politely. "How do you do, young man."

"I ask your blessing, Grandfather," Rahn said, bowing his head.

Kiv gave the blessing, and Sindi said: "Father, this is Rahn peDorvis Brajjyd, my lab mate."

"I am pleased to know you, my son," Kiv said. His smile hadn't faded a fraction. "PeDorvis? Isn't your father Dorvis peDel?"

"Yes, Grandfather." Rahn's voice was a little stiff.

"I think I met him, years ago. Take my blessing to your father when you see him next."

"I shall, Grandfather," Rahn said politely. But Sindi knew he was lying. The blessing of Kiv peGanz Brajjyd was something that Dorvis peDel would never care to accept.

"You must excuse us, Rahn peDorvis," Kiv said. "My daughter and I have some things we must discuss." He made a ritual gesture. "The peace of your Ancestors be with you always."

"And may the Great Light illumine your mind as He does the world, Grandfather," Rahn returned in proper fashion.

He stood silently as father and daughter left the room.

Outside, Sindi said nothing. She walked quietly by Kiv's side, wondering what he was thinking. They walked halfway up the long paved roadway before Kiv broke his silence.

"He seems like a pleasant young man," Kiv said. "At least he knows the greeting rituals and uses them.

So many of the younger people today tend to forget their manners."

And that was all he had to say.

On the day of Jones' retirement, the students were asked to gather in the square. Word went round the rooms that a very special ceremony was to be held, and as the students filed into the square curiosity was evident on their faces.

Sindi and Rahn came straight from the laboratory, and got there late. They stood well to the rear of the clustered students, their backs pressed against the smooth granite wall of the Administration Building.

Unlike the recent Commemoration-Day events, this was to be no public demonstration. Only the students and faculty of the School were present.

The rumors of Jones' retirement had been spreading for some time, and it became apparent that this was indeed to take place when the Head Grandfather of the School, fat old Gils peKlin Hebylla, made a short, dignified speech about how the Earthmen were emissaries of the Great Light Himself, and how the Great Light found it necessary to call them back when their work was done. The kindly old man was neither pompous nor maudlin about it; it was easy to see that he meant every word. Sindi fancied that she could feel an undercurrent of personal emotion in his words, as though he were contemplating the fact that he, too, was approaching the Eternal Light.

When he was through, the Earthman looked at the hushed crowd for several seconds before he rose slowly from his seat on the marble steps of the Administration Building.

"Children," he said at last, "I have been here at Bel-rogas School for fifty long years. I have tried to show you, as best I could, what it means to follow the Law and the Scripture. I hope you have, by this time, seen where strict obedience of the Law may lead—or perhaps you have yet to see it.

"I have attempted to show you the wonders of nature that the Great Light has put here for you to see and use.

"I do not know how many of you will use this knowledge, nor how wisely you will use it, but you must always remember that the Great Light Himself will always answer all questions if they are properly asked of Him. The discovery of His way is the science of asking questions. And if you ask Him and He does not answer, then you have not asked the question properly.

"Ask again, in a different way, and you may have the answer. The answer lies in the question, not in the person who asks it.

"If the wrong person asks it, he may get the right answer, but he will not be able to understand it."

"I think I see what he means," said Rahn in an undertone. "Like in chemistry—if we want to know what a rock is made of, we have to analyze it. That's the right way to ask."

"Shb!" Sindi said sharply.

"Now the time has come for me to leave you," Jones went on. "I must return to the sky from whence I came. My place will be taken by a man who is quite capable of carrying on the great work that we came here to do. Smith has been with us for ten years and has another forty years of work before he, too, is called back to his home.

"I wish you all well, children, and may the Great Light illumine your minds as He does the world."

As he held out his hand in blessing, Smith stood up and put his arm around Jones' shoulder for a moment.

"Good-by, my friend," he said simply. "I'll see you again in forty years."

Jones nodded and said nothing. He allowed his arms to fall to his side, and he stood silently, straight and tall, somehow mysterious in his alien dignity.

Then, quite suddenly, an aura of blue-white radiance sprang from his body. Slowly, he rose from the steps and lifted into the air. With increasing speed, he rose higher and higher.

The crowd watched in awed silence, tilting their heads far back to watch the Earthman disappear into the haze of the eternal clouds.

Sindi was putting on her best shorts and beaded vest on the morning of the Feast of the Sixteen Clans, twenty days after the ascension of Jones, when her roommate burst into the room.

"Sindi! There's someone downstairs to see you! And is he handsome!"

Sindi fastened the belt at her waist. "Don't blither, Mera. Who is it?"

"Oh, you! Always too calm! I don't know who it is. He just asked if Sindi geKiv Brajjyd was here, and I told him you were. He's riding on a big, pretty deest, and he's tall, and—"

"Oh, Great Light!" Sindi swore in dismay. "I'll bet I know who it is! Yorgen peBor Yorgen! That's who!"

She ran out of the room and down the hall to the front of the building, where a window looked down over the courtyard before the Young Women's Quarters. Cautiously, she looked down, staying well back in the shadows of the gloomy hallway.

It was Yorgen peBor, all right.

Come to think of it, Mera was right. Yorgen *did* look quite striking, mounted on the magnificent deest and looking as if the whole world owed him homage.

I wonder what he wants? she thought. He would have to get permission to come calling here. And I'll bet he has it.

She ran back to her room and finished dressing quickly, ignoring Mera's bubbling conversation.

When she finally stepped out of the door of the dormitory, she looked like a young queen.

"Good Feast Day, Sindi geKiv," Yorgen said in his smooth tenor voice.

"Good Feast Day," she answered. "What brings you here at this early hour, Yorgen peBor?"

"I started before the Great Light touched the sky," he said. "I have brought a letter from your father." He handed her the neatly folded and sealed paper.

Sindi thanked him, took the letter, and broke the seal.

It was from Kiv.

"To my daughter, Sindi, on the Day of the Feast of the Sixteen Clans. Since I know you'll be riding into the Holy City to attend the midday services at the Temple, I thought you would like someone to go with you. Young Yorgen peBor will deliver this letter and escort you to the Temple. I hope you will both find light in your minds and do your worship with reverence in your thoughts."

It was signed: "Your loving father."

She looked up at Yorgen and smiled. "I'll be most happy to attend the Clan Day services with you, Yorgen peBor," she said. In view of her father's note, there was nothing else she could have said.

"The honor is mine," Yorgen replied politely.

"If you'll wait here a few minutes, I'll get ready for the ride. My deest is in the stables, and—"

"May I get your animal for you?" Yorgen asked.

"Would you please? That's sweet of you."

"Again, a pleasure, Sindi geKiv." He tugged at the reins, turned the

deest smartly, and trotted off in the direction of the school's stable.

Sindi ran back into the dormitory, took the stairway at top speed, and ran into her room. Mera was at the end of the hall. Evidently she had watched the whole procedure.

"What's up, Sindi?" she asked as she came into the room.

Sindi was at her desk, writing furiously. "I'm going to the temple with Yorgen," she said without glancing up.

"Oh? I thought you were going to the chapel with Rahn."

"This is father's idea, Mera. He has chosen Yorgen for me."

Mera frowned. "It's too bad you and Rahn are both Brajjyds. Still, in-clan marriages *have* taken place, you know."

"Don't be ridiculous," Sindi snapped. She was still continuing to fill the paper with neat script.

"Well," Mera said, "it might not be sanctioned, but I happen to know that a lot of young couples who were of the same Clan just went to another city. The girl lies about her names and they're man and wife by the time they get there. You could go to Elvisen or Vashcor and—"

"Shut up, Mera. It's impossible. I couldn't leave Bel-rogas, and neither could Rahn. I'll do things the way they should be done, thank you. I don't believe in being sacrilegious."

Mera shrugged. "All right, do it your way. I still think it's a foolish law."

Sindi tightened her lips and said nothing. She finished what she was

writing, folded it, and sealed it.

"Give this to Rahn, will you?" she asked, handing the letter to Mera.

"Sure, Sindi. Have a good time."

By the time Yorgen peBor Yorgen returned with her deest, Sindi was waiting demurely for him on the steps of the dormitory.

The five-mile ride into the Holy City of Gelusar, capital of Nidor, was punctuated only by occasional small talk. It was obvious to Sindi that Yorgen peBor was no more anxious for the match than she was. But what could either of them do? Marriages were arranged by parents; their judgment was wiser in picking a mate than a child's could possibly be.

Holy Gelusar was teeming with people in their holy day finery, each one walking or riding toward one of the many smaller temples in the city. Some of the more important people were going to the Great Temple in the center of Gelusar, but even that gigantic edifice could hold only a small portion of the city's population.

Naturally, as a grandson of the great Yorgen peYorgen Yorgen, young Yorgen peBor would have a reserved seat in the temple itself. They would not have to stand outside in the Square of Holy Light, as many thousands would have to do when the ceremonies began.

The square was, in fact, already crowded when they reached the Great Temple. They circled the

Square and stabled their deests in the private stalls behind the huge building.

"If we go in the back way, Sindi geKiv," said Yorgen, "we can avoid the crowds. There's a side hall that runs along the auditorium."

She followed him through the rear entrance. An acolyte stationed there to prevent unauthorized persons from entering nodded politely to Yorgen and allowed them to pass. The hall was long and poorly lit by the occasional candles that burned in sconces in the wall. Yorgen said nothing; he didn't even hold her hand as they moved down the corridor.

Sindi wondered, for a moment, when her father would make the betrothal official. Actually, it was official now; only the ceremony was lacking.

The corridor ended abruptly, bringing up short against a massive door of bronze wood. Yorgen twisted the lock and pushed it open. A low murmur of sound came through the opening, and Sindi could see the auditorium of the temple beyond. It was already beginning to fill with people. In the vast hush of the huge room, lit only by the gas mantles around the walls and the glowing spot at the altar, the golden glint of light against the bodies of the worshippers gave the temple an almost supernatural appearance. The people seemed not real to her, as though they were marionettes moving against a staged background.

It was the first time Sindi had

ever been in the Great Temple on a feast day. Always before, she had gone to the Kivar Temple on the southern side of Gelusar. It was a small, almost cozy temple which actually made her feel as though the Great Light were there to protect her.

This was completely different. The huge lens in the roof of the gigantic auditorium was much bigger than any other glass lens built on Nidor, and the light that came through it to strike the altar was brighter than any other spot in any temple anywhere.

What was it that the Earthman, Smith, had called the Great Light? *A blue-white star.* What did that mean? To Sindi, nothing. But it sounded mysterious and reverent, although she did not understand the color reference. The light that streamed through the lens to be focused on the hard marble of the altar wasn't blue or white—it was a soft, golden yellow that seemed warm and friendly and powerful.

Yorgen was saying: "We'll have to move down toward the front, Sindi geKiv. Our pew is in the third row."

She followed him down the aisle with head bowed, as was proper in the Presence of the Great Light. When they reached the row of upholstered benches that was reserved for the use of the Yorgen Yorgens, Sindi slid in and kneeled before the glowing spot of light that rested just off the center of the altar. When it

reached the exact center, the ceremonies would begin.

"Uh . . . Sindi geKiv, I'd . . . ah . . . I'd like to have you meet a friend of mine." Yorgen's voice, a conversational whisper, somehow sounded strained and hoarse.

Sindi turned her head to look. The girl was sitting on the other side of Yorgen and was smiling in an odd sort of way at her.

"Sindi geKiv Brajjyd, I should like to have you meet Lia gePrannt—Yorgen," he added almost reluctantly. "Lia gePrannt, this is Sindi geKiv."

Lia's smile broadened for a moment, then relaxed. "I'm glad to meet you," she said.

"As am I," Sindi returned. The girl was evidently one of Yorgen's relatives who—

Then it came to her. What was it Rahn had said? *He's known to keep company with a girl named—Lia gePrannt Yorgen.*

And then, quite suddenly, Sindi understood a great many things. She knew why the girl had given her such an odd smile; she knew the reason for Yorgen's hesitancy; she knew why Yorgen was so polite and formal toward her.

She found herself liking Yorgen peBor Yorgen.

She not only liked him, she knew him. She knew how his mind worked, and why he acted the way he did.



In that flash of illumination, Sindi geKiv Brajjyd learned a great many things. About others, about herself.

She looked back at the glow of the Great Light upon the altar-top and smiled to herself.

Thank you, Great Light, for the light you have shed upon my mind.

Perhaps Yorgen was a blockhead; perhaps he was shallow. But, in spite of the fact that she didn't love him, she at least knew him, and that would make their life together bearable. Perhaps, Sindi thought, the old men were wisest after all. The old ways still retained some merit. Kiv had not picked a worthless husband for her.

The glowing spot of light on the altar had reached the mirrored depression in the center, and it began to get brighter and brighter.

And then the great bronze gong that hung beside the altar was struck by an acolyte behind it. It shuddered out its ringing bass note, and the services for the Feast of the Sixteen Clans began.

When they rode back to the School of Divine Law, Yorgen left Sindi at the gate. He thanked her for her company, assured her that he would like to see her again, soon, and rode back toward the city.

Sindi guided her deest toward the stables and dismounted at the door. She led the animal inside and took off the saddle. She noticed that the stall next to hers was empty. Rahn had evidently gone into the city, then. Most of the students had at-

tended the services at the school's small chapel, rather than ride into Gelusar. Besides, some of the students who had come from distant cities had no proper parish in Gelusar.

She took a heavy, rough towel from its peg on the wall and began to wipe the perspiration off the back and sides of the deest. She was just through with one side when Mera came running into the stable barn.

"Sindi! One of the girls told me you'd just come in. Here! It's a letter from Rahn. He left it with me. He told me to give it to you as soon as you came back."

Mera held out the folded, slightly grimy sheet of paper. Sindi dropped the towel, snatched the letter from her roommate's hand, and tore it open.

My dearest darling Sindi,

I knew this would happen—I suppose we both knew it. But I didn't think it would be so soon. You will have to marry Yorgen, of course; you can never marry me. But I'm afraid I can't stay to watch it. I couldn't bear to see you betrothed to that deestbrained playboy.

I love you, Sindi, and I'll always love you. Try to think well of me. I wish you the best happiness.

Rhan pD. B.

She stared at the letter, reading it a second time, then a third. She looked up at Mera.

"What is it?" Mera asked. "Bad news?"

"No . . . no," Sindi said, struggling to keep a calm appearance up for the benefit of her roommate. "Just a little note about some lab work."

"Oh," Mera said in relief. "The way you looked when you read that had me worried."

"Don't be silly," said Sindi. "Thanks for bringing the note down here." She folded up the letter and tucked it in a pocket, and picked up the towel. The deest was heavily beaded with perspiration, and for a few moments she let the work of wiping the animal off drive all thoughts from her mind.

She went about her work methodically, finished caring for the animal, and headed back to her lab room. It was, she knew, the only place where she could really be alone now.

Once she was inside, among the familiar, almost beloved pieces of apparatus, experiments-in-progress, dirty textbooks and heaps of soiled lab clothing, she bolted the door and sat down in a chair—Rahn's chair. She read the letter once again.

I'm afraid I can't stay to watch it, it said. That explained why Rahn's deest had been missing from the stable. The silly goose had run off somewhere.

Sindi thought of Rahn, quiet, serious-minded, a little shy, always polite and respectful, and then she thought of Yorgen. Yorgen, who didn't love her, and Lia gePrannt, whom Yorgen did love. And suddenly, with perfect clarity, the thought came to her that there was

just one logical thing to do: go to Rahn, wherever he might be.

But where was he? Some cautious probing around the school made it evident that none of his few close friends knew where he might have gone to. Had he gone home? No; Sindi rejected the idea. Rahn's father, Dorvis peDel, was a proud and fierce man, even more so since his heavy fall. Rahn would never dare return home as a failure, to announce that he had left the Bel-rogas School for some trifling reason. Sindi tried to picture the scene that would result when Dorvis peDel found out that it had been because of Kiv peGanz' daughter that his son had left.

No; it seemed impossible that Rahn had run away home.

The next strongest possibility was that he had gone down to Gelusar. If that were so, it wouldn't be any easy matter for Sindi to find him. Gelusar was Nidor's biggest city, and it would be simple for a lovesick boy to lose himself quite efficiently in it.

But the drawback there was that Gelusar was only five miles from the school, and there was fairly steady traffic between Bel-rogas and the Holy City. Gelusar was always full of people from the school; there was a fairly good chance that, in time, Rahn would be seen and recognized by someone.

Sindi got up and petulantly flipped on a burner, and stared at the flickering flame until her eyes began to smart. Everything in the lab bore

Rahn's imprint: the retort filled with a mysterious golden-green liquid standing just above their row of notebooks, the dent in the burner where Rahn had once dropped it, the sloppy mementos of his presence all over the lab.

There was one logical place where he would have gone, and as the answer occurred to Sindi it also struck her that she would have to get moving in a hurry in order to catch him in time. He would be heading for the seaport of Vashcor, Nidor's second largest city, three days' journey away on the other side of the forbidding Mountains of the Morning.

He had often talked of going to Vashcor. He had wanted to travel, to have adventure, and Vashcor was the gateway. Of course, Sindi thought—he had gone to Vashcor!

She drew a deep breath, tidied together some of the notebooks just to keep her hands busy, and took a few tentative paces around the lab while she decided exactly what she was going to do. Then she dashed out of the lab at top speed.

Her deest was waiting patiently at the hitching post, but the animal looked tired and not at all anxious to undergo a long journey. She glanced down at the other stalls, and selected the biggest and sturdiest animal there. It was Smith's.

"Sorry, Smith," she said. "But I need your deest." She unslipped the hitching rope and led the animal out of the stable. She leaped lightly

into the saddle, which Smith had thoughtfully left in place, stowed her lunchpack in the saddlebag, and guided the deest down the winding turf road that led away from Bel-rogas.

Vashcor was due East. The road was a good one, running up to the low-lying outhills of the Mountains of the Morning and then detouring around the great bleak mountains. No one ever went near the Mountains of the Morning. They were cold, nasty-looking peaks, bare of vegetation. The nightly rain of Nidor washed them clean of soil and left them standing, naked teeth jabbing up out of the plains.

Aside from their uninviting appearance, there was an aura of taboo surrounding the Mountains. They were dead and empty, and for the Nidorians anything dead was sacred and hence somewhat to be feared.

However, Sindi thought, I'm going to go over those mountains. They're not going to scare me.

It was a matter of necessity. Rahn had had several hours' jump on her, and unless she caught up with him he might easily reach Vashcor and ship out for points unknown before she could find him. If she detoured across the mountains, she might be able to make up the head start Rahn had, since he would go the long way around them.

That is, she *might* be able to make up the difference. There was no guarantee that the mountains were passable.

As she left the outskirts of the

school and headed down the open road to Vashcor, she muttered a brief but heartfelt prayer. The Great Light seemed particularly bright that afternoon, and she took it as a good omen.

The road traveled through perfectly flat countryside for mile upon mile. Far in the distance, half-hidden by the cloudy haze, she could see the Mountains of the Morning. Behind them was Vashcor.

The first part of the lonely journey took her through fairly populous farm territory. The roads were hardly crowded, but occasionally farmers going to market passed her, recognized her School costume, and saluted respectfully. Occasionally, yokels called things after her as she sped by.

Then, as the Great Light started to dim for the evening, the character of the countryside changed, and the farms became fewer and more widely spaced. Sindi became uneasy, and had some grave doubts about the wisdom of her wild venture, especially when it grew dark and the ever-present night-time drizzle of Nidor began. Cold, hungry, a little frightened, and, before long, soaking wet through her light garments, she nevertheless urged the deest onward.

Morning came, and she realized she had no idea where the night had gone. There was the sudden realization that it was light out, and the rain had ended, and the Great Light's warmth was in the air, and that was all there was to tell her that there had been passage of time.

The Mountains of the Morning—the name seemed appropriate, now—were closer than ever before. They loomed up high on the horizon, huge purplish piles of stone. Certainly, Sindi thought, they were a grim and foreboding barrier to contemplate crossing.

The road was completely deserted now. Sindi kept staring ahead, hoping perhaps to get some glimpse of Rahn, but there was no one in sight.

She continued on through that morning, pausing once to rest her deest for a while. The unfortunate animal was near the point of collapse. She let the deest stretch out in the road for about ten minutes, and then, impatient to get on, urged the animal up.

"Let's go," she said to the deest. The animal broke into a weary canter and clattered along the road.

After about two hours of solitary riding, Sindi spotted a figure coming toward her on the road. For a moment she thought wildly it might be Rahn, returning, but as the other drew near she saw it was an ancient man, riding a bedraggled-looking old deest.

She pulled up, anxious merely for the company of another person.

"Hoy, Father!"

"Hoy," the old man replied. He was dressed in rustic costume, and was probably a venerable farmer returning from a visit to Vashcor. "Where to, youngster?"

"Vashcor, Father," Sindi said.

"A long journey for one so young," the old man commented.

Sindi smiled and nodded. "I'll manage. Tell me, old one: Have you seen anyone else going in that direction this morning?"

The old man thought for a moment. "Well, no. That is . . . yes, I did see one. Young fellow, heading for Vashcor as fast as could be."

"What did he look like?"

The farmer chuckled. "Oh, I can't remember things like that, youngster. I don't see very clearly any more, you know. But he stopped to ask if he was on the right route to Vashcor. He wanted to know what the quickest route there was."

Sindi rocked impatiently back and forth on the deest. "And what did you tell him?"

"I said for him to keep going on the road he was on, of course. This is the best road to Vashcor." The old man paused again, and a frown added new wrinkles to those already on his brow. "But then I laughed and told him if he was really in a hurry he could make a short cut over the Mountains, and blast it if he didn't take me seriously and do it! Last I saw of him, the fool was heading for the foothills. He must be crazy; no one ever goes near those moun—"

At that Sindi dug her heels into the deest and went charging away, leaving the old man still standing by the roadside. "May the Great Light bless you," she called back at him.

He had taken the mountain path? Sindi frowned, realizing that her

planned short cut now was no advantage at all in the race to head Rahn off, but a necessity. She stared up at the mountains, now quite close.

The road started to sheer off to one side of the range, which was not a very wide one. As soon as Sindi became aware that she was traveling along the detour, she cut off the road and started across the gray-green fields.

After a while the vegetation died out and bare desert appeared. And then Sindi spotted something that made her heart pound: well-defined deest tracks, leading toward the Mountains.

They had been made recently.

They could only be Rahn's.

She followed the trail carefully, and the land began to rise as she entered the foothills. The air was perfectly still. Not even a breeze broke the silent calmness. There was only one thing she could do. Keep moving.

It was hours later before the thin sand of the foothills could no longer hold the footprints of the deest she was following. Here, as far as she knew, no living person had ever gone. There was no need to; the Mountains of the Morning were barren—devoid of all life except lichen and small insectoidal creatures. Nothing that needed soil could live in these mountains; soil couldn't last long when it was floated away each night by the cooling drizzle that washed the planet when the Great Light was gone.

And now, there was not even sand

to register Rahn's prints. Which way would he go? The easiest way, of course. Whichever way that was, that would be the path she must take.

The path led through barren rock that angled higher and higher toward the summits of the peaks which loomed around her; giant crags, like broken teeth sticking out of a dead skull.

The deest was beginning to give out. His breath was short, and his strength seemed scarcely capable of holding up the weight of his own body, much less that of the girl on his back. Finally, Sindi dismounted and began to lead the tired animal. Her high-heeled riding boots were poor equipment for climbing across the bare boulders of the mountain, but she knew her bare feet would be even worse.

The daylight was beginning to fade again by the time she decided to sit and rest. How had Rahn gone on this far? She didn't know, but she knew that only a driving passion could push him on this far—an inverted passion, a passion that pushed him away from her instead of pulling him toward her.

She sat on a nearby crag of basaltic rock and put her head in her arms, wishing gloomily that she had had the good sense to run off with Rahn when the idea had first been suggested to her. If she had, none of this would have—

Clunk!

Sindi jerked her head up and look-

ed around her in the fading light. What had made the noise?

And then she knew, as the faint purr of a deest reached her ears.

She climbed to the top of a nearby boulder and looked around. There, only a few dozen yards away, was another deest, grazing peacefully. But there was no rider. The saddle had been removed.

Rahn, knowing he could go no farther with the animal, had relieved it of its burden and set it free. And it could only have been a few minutes before, or the deest would have made its way farther down the mountains, where there was grass to eat and soft sod on which to lie. Now, the deest seemed to be waiting for its master to return. Rahn couldn't have left it too long ago.

She took everything she had and put it into the pack on her back. Then she pulled the saddle off the deest and slapped it on the rump.

"Move off, fella. Go home. Smith is going to want you."

The deest trotted off. She started up the rocky incline, keeping her eyes open for places where Rahn had disturbed the rockfalls, searching for his footprints in the gravel.

Something had been driving Rahn, all right. He had wanted so badly to escape, to run away to Vashcor, that he had taken this insane route over the mountains.

The route that she, just as insanely, was following.

She kept moving, despite the pain in her feet from the high heels of the riding boots she was wearing.

And all the time she climbed, she knew she was following Rahn into the one place where neither of them really wanted to go—the one place where they could really be free from the network of age-old Nidorian customs that bound them—the one place where they could find peace together—the Halls of Death.

The pale, colorless glow of the Lesser Light made the rocks seem like great lumps of bread dough. They had the color, but not the consistency.

Suddenly, she realized that she had heard a noise—had been hearing it for the past several minutes without paying any particular notice. She stopped climbing, to still the sound of her boots crunching against the gravel.

For a moment, she could hear nothing, then the sound came again. A hum. A buzz. What was it? Whatever it was, it was directly ahead, and it definitely was not the sound of someone climbing.

She listened for a few moments more, and then resumed her climb.

It was several minutes later when she saw the light ahead of her. Then, when she came over the edge of a little outcropping, she saw something that was so totally alien to her that it took a long time even to partially understand it.

It was a plain, a broad, flat plain. Acres and acres of ground had been leveled and smoothed and covered with concretelike rock. And all around the edge were colored lights,

some green, some red, some yellow, some white. Close to the edge nearest her were little buildings with lights on them and inside them. What did it mean? Who would build up here?

Sindi geKiv Brajjyd had never seen a spaceport before. Nor would she, ever again.

She just stood there for what seemed like a long time, trying to make sense out of what she saw. It was not until she saw something moving that she was jerked suddenly back to reality.

A squad of men were marching out of the darkness of the craggy rocks and heading through the lighted area toward the cluster of little buildings. Sindi frowned down at them for a second and then had to stifle a little scream.

They were Earthmen! That was unmistakable. And they were holding a Nidorian, forcing him to go with them to the buildings near the edge of the great field. And Sindi knew that there was only one other Nidorian in the Mountains of the Morning.

She acted almost without thinking. As rapidly and as silently as she could, she ran toward the cluster of buildings to which the Earthmen were guiding Rahn. They had taken him inside by the time she got there.

She didn't know which room he was in; the entrance to the structure was on the other side, and she didn't know where the door was. All she could do was look for lighted windows.

There were several on the ground floor, but they were occupied entirely by Earthmen. Finally, she found an outcropping of rock that would permit her to get close to the one lighted room on the second floor. The window was open, and the breeze of the chill evening air fluttered the papers on the desk in the room.

There were four men in the room—three Earthmen and Rahn. And then Sindi got a shock even greater than the last. One of the Earthmen was Jones!

Jones—who had gone to the Great Light, was here!

He was saying: "I'm sorry you came here, Rahn peDorvis." He looked old and very tired. "It was never intended that any Nidorian should find this port." His jutting little beard waggled as he spoke, but his voice was as kindly as ever.

Rahn didn't move, and when he spoke his voice was tight and strange. "You're dead, Jones. Am I dead, too?"

Jones shook his head slowly. "I am not dead, my son. I never said I was going to die. I said I was going back to the sky. And I am. But when I go, I will be alive. As alive as I am now. As alive as you are."

It seemed to Sindi as she stared in amazement that Jones was trying hard to convince the boy that his words were true and honest.

Rahn's hands gripped the arm-



rests of his chair. "But what does it all mean? I mean . . . well, that sounds silly, but . . . well—"

Jones held up his hand, palm out. "I know how you feel, my son. And, believe me, I'll explain everything to you. You're capable of understanding it, partially, and I think you deserve a full explanation. Do you want some water?"

Rahn had been licking his lips, but it was obviously fear and not thirst that motivated it. Still, he did not act as if he were overly afraid of the Earthmen. Sindi clenched her fists and prayed silently.

"Yes, Jones. Please. Some water," Rahn said.

One of the other men poured a



glass of water while Jones went on talking.

"I won't ask you how you came up here, nor why. That isn't important. What you want to know is why we are here and why we are doing whatever we are doing.

"The answer is very simple. We have come, as we told you, to help Nidor. Look—let me show you something."

He pressed a button on the desk near him. Behind him, a screen lit up. In full color, a dance going on became visible. A very odd-looking Earthman was dancing gracefully in miniature across the screen.

"An Earthman?"

"Earthwoman," Jones corrected.

Yes, it was an Earthwoman! Her

head hair was long and golden and reached nearly to her waist. It swirled around her as she danced.

"This is an entertainment screen," Jones explained. "With this, we can see to any point within range. We can talk with each other and see each other."

He pressed another button, and the Earth girl on the screen vanished.

"As of now," Jones went on, "the average Nidorian must work very hard—many hours a day—to stay alive. We of Earth have machines that will relieve Nidor of this back-breaking work. We have machines that will cook food, plow the ground, build buildings, or solve complex mathematical formulas.

"We are trying to give these things to Nidor," Jones said. "The Great Light has brought us to you to guide you onward. *But it is not time yet.* You must become acclimated—you'll have to get used to the idea of leisure and a better life. You'll have to understand what it means to go to the stars before you can go there."

"Stars?" Rahn asked.

"You'll find out about them, too," said Jones. "We intend to help you to go to space; to see the Great Light Himself, as we do—but we cannot help you there yet. You of Nidor have too much to learn yet, and it is up to us to teach you.

"That's why we have to be careful. If you were given full knowledge now, your culture would come smashing down around your ears like a house of bricks built without mortar.

"And we don't want to wreck your culture that way. We want you to be happy with these things, not miserable with them."

Rahn nodded, although it was obvious that he did not completely understand. Jones was talking to him as though he were a child, and he didn't seem to quite comprehend what Jones was saying.

Jones signaled suddenly to the other three men in the room. As they grouped around Rahn, Jones said: "I am afraid we can't let you remember these things. We will have to blank out a part of your memory. We will have to remove all knowl-

edge of this base. And believe me, Rahn, it is the best thing for Nidor."

Rahn nodded. "If you say so, Jones. Will it hurt?"

Jones smiled and shook his head. "Not at all. Tell me, now: how did you get up here?"

Rahn told how he had ridden his deest high into the mountains and then had gone on on foot. He started to explain *why* he had done it, but cut that short.

Jones beamed. "You call these mountains, but you haven't seen the really *big* mountains. The rain here, falling every night, keeps these mountains bare, and wears them low.

"Rahn, my son, you may not believe this, but I have seen mountains seven and eight miles high. The Mountains of the Morning are less than half a mile at their highest peaks."

Jones frowned then, and thought a moment. Finally, he said: "It's time now. We'll remove your memories of the past few hours now. The machine is in the next room."

Sindi watched as Rahn, obviously reluctant, rose and nervously followed Jones and the other Earthmen into the room adjoining. Sindi craned her neck to see into the room, failed, and edged around the building, looking for a window that would give her a clear view into the inner room. There was none.

What seemed like ages passed, as she waited for some sign from within. Then, without warning, the door of the building slid open and the

Earthmen appeared, bearing the unconscious body of Rahn. Sindi shrank back against the wall, not wanting to be seen. She didn't know what it was the Earthmen had done to Rahn, but she was not at all in favor of having it done to herself as well.

To her amazement, she saw the Earthmen begin to glow with the blue-white aura that she had seen when Jones had ascended to the Great Light, that day at the school. They rose into the air, carrying Rahn, and drifted down the cliff and out of sight.

Sindi watched, astonished. All was silent, except for the constant hum and buzz of the spaceport generators.

A few moments later, the Earthmen reappeared without Rahn. They floated gently up the side of the hill, entered their building, and the door closed behind them. Sindi edged out across the clearing and started the slow descent. As she lowered herself over the edge, she caught sight of Rahn, sitting at the base of the cliff, his deest nuzzling nearby.

So they had removed his memories. And, effectively, it was as if she had never seen the spaceport either. For who would back her story up? Not Rahn, with his memories removed. Any tales she brought back would be discounted as mere wild imaginings.

But, more important, she had no desire to tell anyone about what she had seen of the Earthmen's secret activities. What was it they had said, that Nidor was not yet ready? She

didn't want to do anything that would hurt the Earthmen's plans.

They held out the promise of a bright future. They beckoned to Nidor, keeping in reserve for them the wonders they had shown to Rahn. Some day, these would belong to Nidor. If not to Sindi, then to her children. She would wait.

Sindi saw it was her duty to say nothing. The Earthmen were agents of the Great Light, and the Great Light would lead them to the promised land in his own good time.

In his own good time. It was promised. "Those beloved of the Great Light shall hold tomorrow in their hands." It was there, in the Eighteenth Section of the Scripture.

Rahn was dazed and bewildered when Sindi found him at the base of the mountain. He looked up in amazement as she appeared.

"What are you doing here?" he asked. Then he reconsidered. "On second thought," he said, "what am I doing here?"

"What happened, Rahn?" she asked quietly.

"I . . . I don't know. I left my deest here. I intended to climb on up . . . but—" He shook his head. "I don't know."

"Silly," she said, smiling. "You fell. You hit your stupid head on a rock and it knocked the sense out of you."

Rahn blinked and then grinned. "I suppose . . . did you see me?"

"No. But I've been following your tracks in the gravel and sand. I was

going to climb, too, until I found out what happened to you."

Rahn rubbed his head. "My head hurts, and I feel groggy. I'll never—" He was looking toward the east, and he saw the first glimmerings of the Great Light on the horizon. "The Light! How long have I been—"

"You've been wandering around for hours," Sindi said, improvising as she went. "I've found your deest. Mine got away."

Rahn put his hands to his temples. "Let's go. Let's go home. My head hurts."

Sindi bit her lower lip and then nodded silently.

Yes, she thought, it hurts. I'll bet it hurts.

Grandfather Kiv peGanz Brajjyd paced back and forth in the outer office of Smith, the Earthman. Seated on a heavy chair in one corner of the room was the well-padded frame of old Grandfather Gils peKlin Hibylla, his hands folded comfortably across his paunch.

"Calm yourself, Grandfather Kiv," he said. "The children are on their way back. The telegraphic message from Gwilis Village said that they passed that way only three hours ago."

Kiv stopped pacing and clasped his hands anxiously together. "I know they're safe! I'm not worried about that. But what about the betrothal? It's gone haywire from both directions. What a scandal! What should I do, Grandfather?"

The old man shrugged. "Why worry? Young Yorgen peBor has solved the problem for you. If he can get a member of his Clan . . . ah . . . in an . . . ah . . . interesting way and then talk old Yorgen peYorgen Yorgen into sanctioning their marriage, then you should have nothing to worry about."

"Nothing to worry about?" Kiv exploded. "Why, this is terrible! My daughter runs off with a member of her own Clan, and then the man she's going to be betrothed to finds that he is forced to marry a member of *his* Clan. Forced! Grandfather, do you realize that twenty years ago they would both have been stoned to death? It's . . . it's terrible!"

"You're repeating yourself, my son," said Grandfather Gils quietly. "Remember, things change. Times are different today. Our society isn't what it was twenty years ago. We must remember that, you and I."

Before Kiv could reply, the door to the inner office opened, and Smith, the Earthman, said: "You wanted to talk to me, Grandfather Kiv?"

Kiv nodded. "Yes, Smith, if I might."

"Please come in, then."

Actually, Kiv did not want to talk to Smith; it was old Jones he wanted, actually needed. But Jones had gone to the Great Light, and he would have to depend on the younger man.

When Smith closed the door behind him, Kiv said: "I understand that you will have to expel my

daughter from the school. I know that is right, and I don't oppose it. But I want your advice on one thing. Should I permit her marriage to this Rahn peDorvis? He is, after all, a Brajjyd."

He shuddered. All of his plans were destroyed now; Yorgen was lost to him, and he was faced with the possibility, no, the probability, of an outrageous match with the son of a penniless Edris-manufacturer.

Smith seated himself behind the massive desk and ran the tips of his fingers over his beard.

"Sit down, my son," he said softly. "You are an alumnus of Belrogas, right?"

Kiv sat down slowly and nodded. "Yes, Smith, I am."

Smith smiled quietly. "Then I fear you haven't taken your teachings to heart."

"I haven't?" Kiv said, thoroughly taken aback.

"I don't mean to criticize your knowledge, Kiv," the Earthman said. "But you've become too emotionally involved in this thing. It has clouded your thinking. How do you interpret the Law as regards in-clan marriage?"

Kiv thought for a moment. "Well, there's nothing specific, but—"

"Exactly," Smith said. "There is nothing specific. In-clan marriage is governed by custom. And what governs custom?"

"The practices of our Ancestors," said Kiv.

"Ah, yes. But who determines when custom should change?"

"Our Elders," Kiv replied. He felt as though he were going through a catechism of some kind.

"And who is Yorgen peYorgen Yorgen?"

Kiv shook his head. "I see what you're driving at, Smith. But it won't wash. Elder Grandfather Yorgen permitted the marriage of young Yorgen peBor because he had been intimate with Lia gePrannt. It was the least unpleasant way of covering an unpleasant situation. But no such thing has happened in the case of my daughter and young Rahn peDorvis."

Smith folded his hands on the desk and closed his eyes. "Can you be sure?" he asked. "And if you can, can the rest of society be sure? It's not what you may think that matters—it's what society thinks."

"Is there, after all, any proof of Lia gePrannt's condition? Didn't the Elder Grandfather have to take that on faith?"

Smith jabbed a forefinger at Kiv. "There is your precedent, Kiv. Faith. It doesn't matter which way it may go; you have certain decisions you must make."

"Legally, your daughter may marry Rahn peDorvis, now that an Elder has sanctioned such marriages. Such marriages are now part of the accepted body of tradition. And isn't it your duty to your daughter to remove any stain from her name by announcing her betrothal?"

Suddenly, Kiv felt terribly small,

and very confused. He fought with himself for a moment. He tried to picture how the Elders had felt, that day when a younger Kiv dynamically showed them how to wipe out the hugl threat. They must have been as confused and as puzzled, Kiv thought, as he was now.

He looked at Smith and abruptly his doubt disappeared. Jones was not, after all, indispensable; Kiv had expected Smith to be a mere child next to Jones, but he had turned out to be an Earthman in every sense of the word.

"I see," Kiv said quietly. "I thank you for your advice, Smith. May I come again?"

Smith nodded, smiling. "I'm at your service at any time," he said. "And we'll be expecting your daughter and her husband back here at Bel-rogas as soon as they're through getting to know each other. They're the kind of people we want here."

Kiv nodded, not daring to think any more. He gave the Earthman his blessing and walked out of the door, managing to hold his head high.

There was a rap at the other door.

"Come in, Harry," called Smith.

The geneticist walked in, grinning. "I heard that little speech. It's exactly what we wanted. I don't know how you anthropologists manage to juggle things so exactly. Now

we'll get inbreeding in both clans."

Smith grinned. "Geneticists are the wrong kind of mathematicians, Harry. They know what they want, but they don't know how to get it. We do. That's our business, and that's why we're here."

The other Earthman spread his hands. "I could resent that, but I won't. You're right. We all have our places in this mission." Then he looked serious for a moment.

"Do you mind explaining something for me?"

"What do you want to know?" Smith asked.

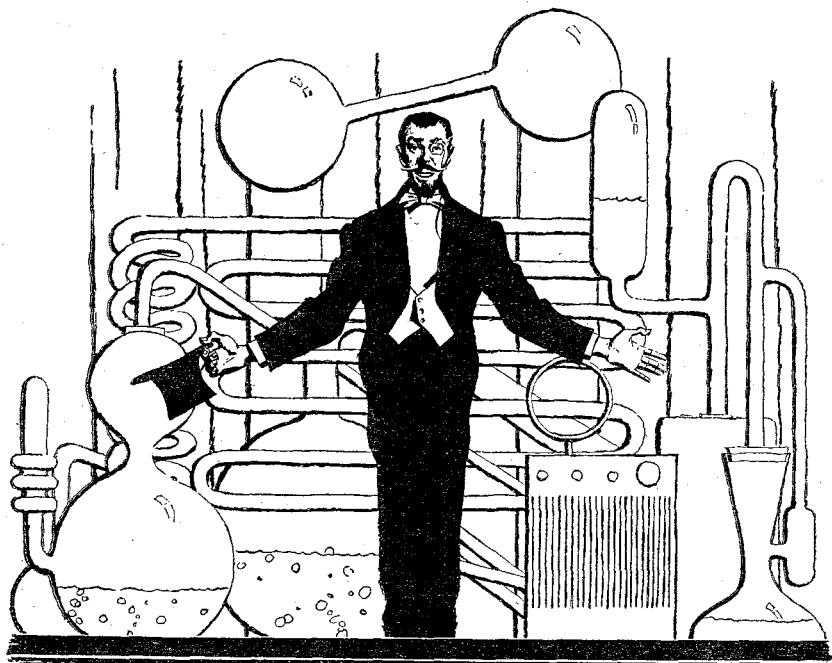
"The Brajjyd girl. She saw what happened out at the spaceport. Jones arranged that, of course. And we had her spotted the moment she climbed up the cliff. But what happens if she tells? Won't it blow the top off the whole project, just when we're set to get rolling?"

Smith shook his head. "She won't tell. We have her index figured too closely for any mistakes like that. She's perfectly content to sit quietly and wait for us to lead the Nidorians to the promised land Jones talked about. Besides, she knows no one will believe her if she describes our spaceport."

He paused, then, and looked out at the silvery light of the Nidorian sky.

"No, she won't tell anyone now," he said. "But she'll tell her children. And they're the ones who count."

THE END



THERE'S NO FOOL...

Which demonstrates again that you should never trust a professional magician to tell you the truth about his tricks...particularly when you couldn't believe it anyway.

BY DAVID GORDON

*When they're offered to the world
in merry guise,
Unpleasant truths are swallowed
with a will—
For he who'd make his fellow
creatures wise*

*Should always gild the philosophic
pill!*

Sir William S. Gilbert
"The Yeomen of the Guard"

THERE'S NO FOOL...

39

GAYSTIK THE GREAT
MASTER OF MAGICIANS
CALIPH OF COMICS
FUDDLER OF PHYSICISTS
*The Mad Scientist of Magic at His
Best!*

Kerry Dorman grinned at the poster, groped in his pocket for his lighter, found it, and lit the cigarette he had stuck between his lips.

The poster grinned back at him. The cartoon drawing of Gaystik the Great was all teeth and hair. The exaggerated Vandyke beard and long haircut made the smile look almost Satanic. Kerry wondered just how closely the cartoonist had been able to capture the features of the magician.

"Hey, buddy," said a voice behind him, "the line's movin'."

"Oh. Sorry." Kerry moved on up toward the box office.

There were only ten people between him and the box office now, but behind him the line stretched eastward almost to Broadway.

It isn't often New Yorkers are willing to line up to get into a theater, but Gaystik the Great was reputed to be one of the funniest things that had hit the Big Town in decades. The big SRO sign had already been hung out, and still people joined the queue.

The *New Yorker* had said:

"Magic acts have long been considered *passé*, even the comic ones, but those who have caught Gaystik the Great have almost been forced to admit that his enticing blend of

pseudo-science and silly slapstick has given the art of prestidigitation that shot in the arm that it has long needed."

The reviewer for the *Times* had remarked:

"Not since the late, great Blackstone have audiences been so thoroughly enchanted and mystified. The tricks are clever, and the comedy is hilarious."

And *Variety* had summed it up as:

GAYSTIK'S TRIX WHIZ BIZ!

Kerry Dorman had read all of them, but it hadn't been reviews which had made him take the trip from the far end of Long Island into the city to see Gaystik the Great. Instead, it had been almost a direct order from Dr. Fenner, Kerry's superior at the Space Drive Research Lab of General Nucleonics.

Fenner had seen the act—after being dragged in by his wife—and had said: "The man is downright insulting! No one who knew anything about physics would be taken in in the least! It's all double-talk and fatuous silliness. It's certainly not worth the time it takes to go see him."

Naturally, since most of the men in the lab knew the notoriously poor sense of humor of their superior, the remark had all the effect of an indirect order. If the boss thinks it isn't funny, it must be terrific.

Kerry stepped up to the window, laid down his money, and got his ticket. Inside, he found himself

standing just behind the back row, crowded in with the rest of the standing group. The stage looked terribly far away. He leaned back against the wall, folded his arms, and waited.

The lights went up, but the curtain remained closed. From the pit came a blare of trumpets, and a smallish man wearing an ordinary blue serge suit came out before the heavy purple curtain. He had a Vandyke beard, but he looked so small and self-effacing that the beard simply looked as though it had been painted on. He held up his hand. The murmuring in the audience died away.

"Ladies and gentlemen." His voice was almost a whine. "I would like your attention—please?" There was a titter in the crowd. The man on stage looked uncomfortable and cleared his throat. "I would like very much to have you meet my superior. I would like to have you meet a man who has the power of the gods and the trickiness of the Devil. I would like to introduce to you a superior being, a veritable superman, a genius so far above me that I am absolutely insignificant!"

He bowed and waved a hand toward the wings. The crowd applauded deafeningly, and, here and there, several people guffawed. The applause went on while the man held his bow.

Nobody appeared.

The small man straightened himself. "Unfortunately," he said, in a

booming voice that reached to the far balcony, "there *is* no such person! *Nobody* is superior to *me*, Gaystik the Great!"

The change in the little man was tremendous. He seemed to gain an additional two inches in height. He put his hands above his head, clasped them, and shook hands with himself, like a boxer who has just won the championship. The crowd roared.

When the applause died at last, he leered out at the audience. "You came here to see magic, hah?" He paused. "Hah! You *fools*!" He raised a hand grandiloquently. Again his manner changed. He seemed to be a barker in a cheap sideshow.

"My friends, what I am about to show you is no foolish folderol of petty prestidigitation, no leaky, limping legerdemain. No, indeed! I do not pretend to purvey paltry, piffing practices such as these! Instead, I shall show the stimulating sorcery of science and the magnificent magic of mind over matter!" Then, he looked blank. "Duh... wha'd I say? What's 'at mean, huh?"

As the curtain swept aside, Kerry found himself almost helpless with laughter. It wasn't so much *what* the little man was saying; it was *how* he said it. His voice changed in such a kaleidoscopic manner that there sometimes seemed to be several people on the stage, and his face was as plastic as his voice.

The opening curtain disclosed a Hollywoodish set for a Mad Scientist movie. There was the usual high-

voltage Jacob's ladder with the climbing spark that went *vooop vooop vooop* as it repeated its cycle. There was a fantastic array of glass tubing which bubbled merrily with glowing, varicolored liquids, and bank after bank of flickering neon tubing.

And yet, it really didn't look scientific; it was a parody of a laboratory, not just an impressive imitation. The arrangement was such that Kerry was reminded of the lights and action of a carnival or the pyrotechnic displays of a Chamber of Commerce Fourth of July.

Gaystik the Great drew himself up, looked very supercilious, whipped a monocle out of midair, stuck it in his right eye, and said: "Leddiz end gen-til-min—my luhBORuh-trih!"

There was a burst of applause, which increased a little when Gaystik's assistant walked onto the stage. She was clad in a white coat that was obviously supposed to be a lab smock, but it fit much too tightly, and it only covered about a quarter of her thighs. From there down, her shapely legs were bare. Her feet were clad in white dancing pumps with extremely high French heels. Her hair was almost blue-black and her figure was lush.

That was when the fun began. Gaystik went through a series of tricks and gags completely unlike any that were normally seen on the magic stage. Things vanished, appeared, changed color, and went

through physical metamorphoses with dizzying rapidity.

Kerry Dorman watched the hilarious antics for over an hour, not noticing, in his enjoyment, that he was standing and that his legs were beginning to ache. He learned principles of physics that he had never heard of before.

"The Second Law of Thermodynamics," Gaystik said in a stentorian voice, "is known as Carnot's Principle of the Reversible Cycle."

He proceeded to demonstrate this by having his brunette assistant ride a unicycle backwards across the ceiling of the theater while a green spotlight played on her.

"Upside down and backwards!" bellowed the little magician. "The Principle of the Reversible Cycle!"

The audience *oob'd* and *aab'd* and cringed a little as the girl pedaled her way back and forth over their heads.

For the first time, Kerry frowned as he watched the spectacle taking place above him. As an amateur magician, he could see how a unicycle might be geared to a fine, tough wire which would make the trick possible. But there was something about the girl herself which was vaguely disturbing. Still, he couldn't quite place it.

"All this is possible, my dear, untutored friends," said Gaystik pedagogically, "by means of my patented psychocybernetic antigravitational levitator." He paused and stared stu-

pidly at the audience. "Whatever that means."

Kerry soon forgot his disturbing puzzlement as the show continued. The peculiar feeling didn't recur until Gaystik went into his finale.

He stood in the middle of the stage, adjusted his ridiculous monocle, juttied out his beard, and said, in a veddy, veddy phony British accent:

"End naow, deah friends, we will demonstrate the epplication of the late Professah Einstein's celebrated correlation between the fawss of grehvehteh end the Principle of Rehlehtiveteh. What might be termed as the Law of What Goes Up Must Come Down—eventually.

"As you have already seen, this"—he patted a large, weird-looking machine at his side—"is my psycho-cybernetic antigravitational levitator. Quite frankly, it works by the well-known electropsychometrical principle first publicized by Johannes Bactrianus, who was a member of the Artiodactyla, a famous scientific order. He was born on March 8, 1708, and died in 1775, after making quite a name for himself as a literary man. Fortunately, he missed the American Revolution..."

He went on talking. Meanwhile, the girl was going through a frenzy of activity. While Gaystik went on with his pedantic double-talk, the girl began dragging in cables and wires from all over the stage, moving as though she had less than half a minute to do the job. Somehow, most of the cables got wrapped all

around the magician, who seemed not to notice. By the time his speech was through, he was almost invisible beneath a cocoon of wires and cables.

As he finished his lecture, the girl walked over to the side of the stage and threw a huge, three-bladed switch that could easily have carried a thousand amperes without overheating.

There was a tremendous flash of light where Gaystik was standing, and the tangled cables collapsed in a heap.

The girl stared dumfoundedly at the spot where her employer had been.

"Please, dear girl!"

Kerry Dorman jerked his head around. Gaystik the Great strolled through the rear door, not five feet from where Kerry stood. "Please!" he shouted. "I've told you a thousand times to wait for the signal!"

Amid surges of laughter, the little man strode on down the aisle and climbed to the stage once again.

"And now," he cried, "the demonstration! Marlene, *proceed!*" He reached over to the machine and punched a button.

At the same time, the girl started with a run, reached the edge of the stage, and took a flying leap, head first, toward the first row!

Just as it seemed that she would smash her skull against the seats, the green spotlight from the machine struck her.

She came to a dead stop. Then, still illuminated by the green glow,

she zoomed up toward the ceiling. Hanging, seemingly unsupported, high above the heads of the audience, she went into a series of complex aerobatics. A simple loop, a barrel roll, and an Immelmann turn; a series of lazy eights, a power dive, and—most breathtaking of all—a spiraling tailspin that took her down to within inches of the floor of the center aisle.

It was during this demonstration that Kerry Dorman finally recognized what was peculiar about the girl's antics. Her smock and her hair acted oddly. When, for instance, she hung poised over the audience, head down, her hair hung *up*. So did her smock. It was exactly as if gravity had been inverted for her. Hanging on wires wouldn't have that effect; her hair and clothing didn't respond to gravity any more than she did!

For a few moments, Kerry thought that perhaps there were stays in her costume and starch or something in her hair. But that theory didn't hold water at all. When she spun around, her smock flared, and her hair swirled around her head like inky smoke.

It didn't make sense! It was as though gravity were pulling her first one way, then another; as though it shifted to suit her whim—or the whim of the man behind the machine.

The final shock came when Marlene swooped down directly toward Kerry, came to a dead halt a few feet from him, and tickled him under the chin.

"You're *cute*!" she said.

In that startled instant, Kerry still had the presence of mind to put out his arm and sweep it over her back. She was floating horizontally, at eye level; any wires that held her up should have been easily visible. They weren't; neither were they tangible. Kerry's arm completed its sweep without touching a thing.

The girl giggled. "What's the matter, Doc? Don't you believe in magic?" Then she was gone, soaring back toward the stage like a swallow in flight.

Half an hour later, Kerry Dorman was standing outside the stage door of the theater. His lean, muscular face had a look of puzzled concentration. The cool spring breeze whipped about his Burberry topcoat, and swirled his pipe smoke away from his briar, dissipating it into nothingness. He stared at the door for a full minute before he walked up to it and rapped.

A gray, tired-looking man stuck his head out. "Whadda ya want, mister?"

Kerry wasn't used to tackling theatrical people. He felt like an autograph hunter. "I . . . I'd like to talk to Mr. Gaystik."

The oldster shook his head. "Ain't here. He and his wife took off right after the show." He started to close the door.

"How about their troupe?" Kerry asked hurriedly.

Again the man shook his head. "He ain't got any assistants but his

wife. They do the act by themselves. You a reporter?"

Kerry didn't even stop to think. "That's right," he lied. "I'm looking for an interview for the *Times*."

The old man raised a white eyebrow. "Thought the *Times* man was here yesterday."

"That was for a review of the show," Kerry said. "This is a personal interview—a biography, you might say. You know—how he got to be a magician, how he lives—that sort of thing." He cursed himself silently for not getting to the back of the theater before it was too late. But the crowd—

"You have an appointment?" asked the doorkeeper.

"Yes. For right after the show. But I was held up."

"Well—" the gray-haired man said thoughtfully, "you might catch them at their hotel. They're at the Algonquin. His real name's—" The name sounded like "Marx."

"Yeah. I know. Thanks a lot."

It was late, but Kerry wasn't thinking of the time. He took a cab and headed crosstown toward the Algonquin Hotel.

"Marks?" the clerk asked. "M-A-R-K-S or M-A-R-X?"

"Gaystik the Great," said Kerry, grinning. He hoped it was a winning smile.

"Oh! Mr. Markh! That's M-A-R-K-H. Room 1204. The house phone is right over there."

Kerry went to the house phone and called 1204.

"Yeah?" asked the voice at the other end.

"Mr. Markh? My name is Kerry Dorman. I'd like to talk to you, if you have the time." He realized then how silly he sounded. You don't just go calling up a celebrity at all times of the night and get anywhere.

"Dorman? Sure, come on up. Marlene and I were expecting you."

Gaystik the Great's Vandyke beard was real. That was the first thing Kerry noticed. And he wasn't small, either. He gave that appearance on stage because his shoulders were wide, and his wife was tall. She was a full six-one, nearly as tall as Kerry, and a good three inches taller than her husband.

They were standing side-by-side, opening the door, when Kerry knocked.

"Come on in, Dr. Dorman," Gaystik said. "I hope you like Scotch?"

Kerry nodded dumbly as the brunette pressed a chilled glass into his hand.

The magician's grin was friendly and not at all comical.

"You don't recognize me at all, do you, Kerry boy?" His grin became broader. "You don't remember Steve?"

If Kerry Dorman had been prone to fainting spells, he would probably have fainted then and there. He gulped a mouthful of his drink and said: "Steve! Steve Markh! I never would have thought— It's been ten years!"

"Almost," said Gaystik the Great. "How do you like our little act?"

"Fine! Great! I never connected the name! And the beard—" Kerry was still in a state of semishock.

Gaystik brushed the Vandyke with the back of his hand. "Does make a difference, doesn't it? I spotted you when you came in the theater tonight. I was standing outside, smoking my last cigarette before the act. Nobody notices me because I usually keep my trench coat collar up around my face.

"As soon as I saw you, I figured I could have a little fun. That's why Marlene gave you the chin business.

"Oh, by the way—" He turned to the brunette. "Honey, this is Kerry Dorman, old roommate of mine. Kerry, my wife, Marlene."

She'd taken the make-up off her face, but she was still as striking as she had been when she was hovering in the air a foot in front of his face. She smiled impishly. "You know, you really *are* cute."

The thought of her floating in the air reminded Kerry of the purpose which had brought him here. He turned to the magician. "You always were good at picking members of the opposite sex—" Then he smirked. "—But *she* isn't."

Gaystik the Great looked thoughtfully at the ceiling. "Let's see—that's cribbed from—"

"Stop!" said Kerry. "I give up. Never try to best a professional at his own game. And by the way, it seems to me you were taking psy-

chology at State. That's a long cry from stage magic."

"Not so long as you might think," the magician said.

"I suppose you wonder why I came up here?" Kerry asked.

"Why did you?" said Gaystik, neatly sidestepping the question.

"I want to know how you do that trick—the levitation gag. How does it work, Steve?"

Gaystik looked aghast. "My *dear* fellow! Do you realize you are asking me to disclose the cherished secrets of my profession? Never!" The voice was theatrical, but Kerry could tell he meant it.

"But," the magician went on, "you can have another drink."

Marlene was already fixing one. She handed it to Kerry and said: "I'll talk, even if he won't. It's done with a psychocybernetic antigravitational levitator."

Kerry grinned. "Yeah, sure. And I'm Isaac Newton."

"Glad to know you, Sir Isaac," she said.

And then she and her husband burst out laughing.

"But the thing's fantastic!" Kerry said. "I'll swear no magnetic or electrical field could do that, and I'll swear there were no wires attached. Come on; it must be fairly simple. You know me, Steve; I won't tell anyone."

Gaystik shook his head. "I don't think you would, Kerry, but I just can't afford to take the chance. I've got magicians buffaloed all over the

world; I can't afford to throw away an advantage like that."

Kerry shrugged. "O.K.; if you won't, you won't."

Most of the rest of the evening was spent in small talk, pleasant, but not informative. It was well after two in the morning before any of them realized how late it was getting. Kerry looked at his wrist watch and blinked. "It can't be! I've kept you people up!"

"No, you haven't," Gaystik said. "We usually don't get to bed until two-thirty or three. Sleep all morning, you know, so we can do a late show."

"Fortunately, I don't have to work on Saturdays," said Kerry. "I'll probably sleep all morning, too."

"Fine. Say! How'd you like to watch the show from backstage? Like to come tomorrow afternoon? We're giving a matinee at two."

"Why, thanks! That'd be fun. Sure; I'll be there."

Three minutes later, Kerry was strolling out of the Algonquin, inwardly arguing his own moral concepts with himself. Is it fair to steal knowledge from a man if you intend no harm? If the man, himself, sustains no loss, is it wrong to take something from him?

Kerry grinned. Why not? It was only a magic trick. Kerry had no intention of going into the magic business. Q.E.D.: It couldn't hurt Steve Markh.

When Kerry showed up at the theater the next afternoon, he was

THERE'S NO FOOL...



loaded to the gills with gadgets, most important of which were a 35 mm robot camera with special film and a tiny, 4 mm movie camera.

The doorkeeper let him in at the stage door, and said laconically: "Mr. Markh's expectin' ya. First dressing room at the head of the stairs, the one with the star."

Kerry climbed the steel stair. As he approached the dressing room, he heard voices. Marlene was talking:

"... Have to replace that tube. I'd hate to fall from that ceiling."

Kerry stopped, listening.

"Have we got plenty of those tubes?" It was Gaystik.

"Sure, honey; they're in the trunk with the wiring diagrams. You don't think I'd let us run out of something like *that*, do you?"

Gaystik chuckled. "I asked if we had *plenty*, dear. I knew you wouldn't let us run out completely."

There were sounds of something being opened. Kerry assumed it was the trunk they'd mentioned.

The door was partway open. In spite of himself, Kerry tiptoed up and peered through the crack at the hinges.

The thing looked no bigger than a portable radio. Gaystik the Great was leaning over it, checking the circuits, matching them against a small sheaf of papers in his hand. He pulled out a couple of tubes, replaced them with others, and then threw a switch on the side of the box.

"O.K., honey," he said. "How

about giving her a try? Up two."

Kerry blinked as Marlene's feet lifted two feet off the floor. He felt as though his eyes had done him wrong; he had the peculiar feeling that the floor had *dropped*, rather than the girl's feet lifting.

"Over," said Gaystik.

Slowly, Marlene began to rotate about an imaginary axis. She made one complete rotation, then turned through an additional ninety degrees until she was floating horizontal in midair. And, during all that time, her clothing and her hair behaved as if the gravitational pull were located somewhere around the soles of her shoes.

Marlene giggled. "If I live to be a jillion, Steve, I'll never get used to the feeling that the world has turned around, not me."

Gaystik's smile was speculative rather than comic. "You know, honey, maybe you're right. When you're wearing that gadget, maybe everybody *is* out of step but you!"

Slowly, the girl turned until she was upright again. "Mind over matter," she said brightly. "We're all set. Come on; let's get ready."

Gaystik put the sheaf of papers back into the trunk and closed it.

Kerry tiptoed backwards toward the stairway, sneaked down it a few steps, then started up again, slamming his leather heels against the ringing steel treads. Boldly, he walked up to the partially open door and knocked.

"Steve? It's me—Kerry."

"Oh, Kerry! Come on in!"

Kerry pushed open the door and walked into the dressing room. The small bit of apparatus was sitting on one of the tables, looking like nothing more than an ordinary vanity case. Kerry was careful not to give it a second glance.

"You're a bit late," said Gaystik the Great. "We're due to go on in three minutes."

"That's all right," Kerry said. "I'll just watch the show; we can talk afterwards."

"That'll be swell; maybe a drink afterwards, eh?"

"Sure," Kerry agreed.

Nonchalantly, Gaystik picked up the case, and the three of them went back down the stairway.

Kerry Dorman watched the whole show again, this time from a backstage vantage point. He noticed that the small case was set into one of the ludicrously constructed phony machines and its cover opened. By the time the curtain opened, it was ready to function without being seen by the audience.

There wouldn't be a demonstration of the levitation trick for over an hour, Kerry knew. And Steve and his wife would be on-stage every minute of the time. Quietly, he stepped back from the wings and made his way toward the dressing room.

Once inside, he bolted the door and opened the trunk that stood against the wall. Inside it was a fairly large loose-leaf notebook full of intricate wiring diagrams. Kerry unlimbered his 35 mm camera and

his electronic flash and started shooting pictures.

By the time the levitation act started, Kerry was back in the wings again, and this time, his high-speed 4 mm movie camera was buzzing away. Several other very interesting gadgets were also recording their results.

The magic act of Gaystik the Great moved to Philadelphia some three weeks later. On the train down, Gaystik was leaning back in his seat, calmly smoking a cigarette.

Marlene, sitting beside him, was leafing through a magazine. Suddenly, she dropped it into her lap and said:

"But, Steve, are you sure he got everything?"

"Positive," said Gaystik. "I know Kerry Dorman. We set it up perfectly for him. He's got the plans of the machine, and he's got a pretty good idea of what's going on. He'll investigate until he's blue in the face."

"But will he accept it?" Marlene asked. "Honey, you've been going at this for two years now. So far, you haven't convinced *anybody*!" Her voice was almost tearful. "All you've done is let people steal one of the greatest money-making gadgets ever invented!"

Gaystik closed his eyes and massaged the bridge of his nose with thumb and forefinger. "Marlene, I've told you a thousand times, *I don't want to convince anybody!* If

I tried it, you'd probably have a coffin to buy; people won't stand being *taught* that sort of thing. They've got to *learn* it—for themselves. If they think I'm hiding something, they'll beat their brains out to find out what it is. If I try to prove it to them, they'll do one of three things: laugh at me; ignore me; or kill me.

"But if they find it out for themselves, they can't do any of those things."

"But, honey," the girl said, still pleading, "surely a Ph.D. in physics could see how the thing works."

Gaystik shook his head and smiled. "Sweetheart, those boys are just exactly the ones that *won't* listen." He looked out the window, watching the countryside flow by, listening to the *klata-ta-klakata-klak-klak-klak* of the steel wheels moving over the rails.

There was silence between them for several minutes, then Marlene said, "All right, then. What's the difference between this Kerry Dorman and the others? You acted differently with him than you did with the others."

"Only because I knew him; only because I knew him. The trap I set for Kerry had to be a special case." He paused and looked at the glowing end of his cigarette.

"Remember Mantelli? He's an out-and-out crook, as far as his competitors are concerned. He's a professional magician, and he won't let anyone else get ahead of him. He actually swiped one of the levitator

gadgets. You know what he did? He had someone analyze the circuits and build him a duplicate. He'll use that duplicate eventually, if he can.

"But that doesn't matter. The thing is that whoever analyzed those circuits is going to begin to wonder what in the devil the gadget is for. And that's all I want to do. I just want to get the idea running around in people's brains here and there. I want to make sure it isn't smothered. I want to know someone is *worrying* about it!

"Look, Marlene, when I first showed you how the machine worked, you accepted it. Why? Because you didn't know it couldn't be done."

Marlene sniffed. "Just because I majored in dramatics—"

He shushed her with a hand. "I'm not running you into the ground, silly. What I'm pointing out is that men like Kerry Dorman *know* that thing can't work. Just mention the word 'psionics,' and they'll laugh their heads off—or they'll smash you, if you can prove it. But get *them* interested—get them to prove to *themselves* that the human mind and a machine can work together, and you've put *them* on the wrong end of the stick."

The girl shook her head slowly. "But you haven't heard a thing in two years. Nobody else has ever been able to make the machine work for themselves. What good does that do?"

Gaystik dropped his cigarette and

crushed it beneath the toe of his shoe. "I don't know yet. It may take years; maybe I'll never live to see it. But I think I will. Remember, each one of these men has *seen* the thing work. They've *got* to find an explanation, even if it's only to save their own sanity. Someone *has* to find an explanation—somewhere—somehow. I wish to heaven I could figure out how it works."

Marlene ran the tip of her tongue over her lip. "I know," she said softly. "If only someone would see

... would try to find out ... how electronics and the human mind are linked. Or how a machine can act as an amplifier for telepath, ESP, precognition, teleportation, and levitation."

"Yeah," said Gaystik. "Levitation."

Kerry Dorman looked at the room around him. It was upside down! Or was *he* upside down? He wasn't sure. He looked at the machine again, and ...

THE END

IN TIMES TO COME

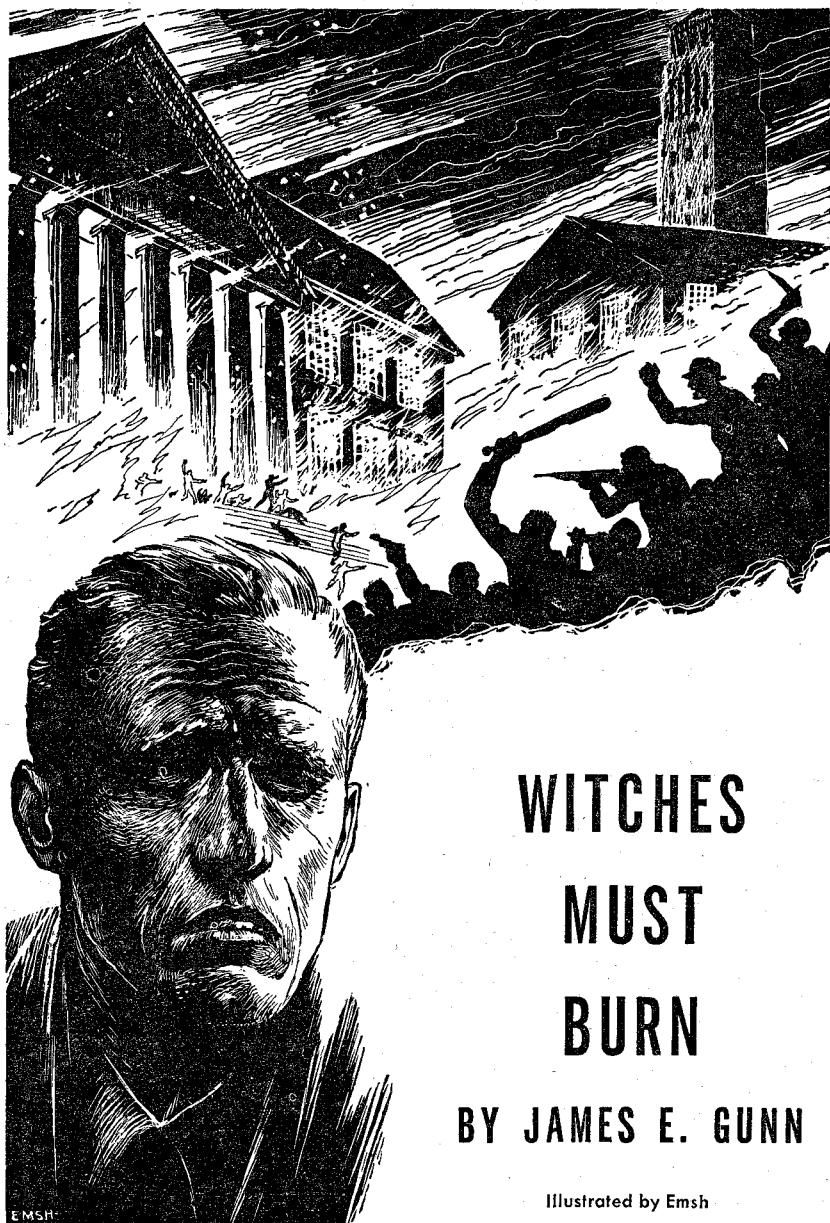
The lead story next month is "Pandora's Planet," by Christopher Anvil. Kelly Freas has done the cover for it. Anvil's a new author... but he takes top spot, because his story is a lovely little thing about the Alien Invaders who Conquer the Earth... and wish most ardently and helplessly that they hadn't.

Have you ever considered the deep and frustrating truth of the old plea, "God protect me from my friends; I can take care of my enemies!"

The guerilla fighters that made life miserable for the invaders were as nothing to the friendly, helpful, co-operative Earthmen who kept showing them new and better—genuinely and unquestionably better and more efficient—ways of doing things.

You know, many an Irish myth is based on the disastrous results of getting the help of a Leprechaun. Anvil might have called his yarn "Leprechaun's Planet," too.

THE EDITOR.



WITCHES MUST BURN

BY JAMES E. GUNN

Illustrated by Emsh

India has produced many brilliant minds—but, because the geniuses of the East held that student, not Master, had to work out means of transferring understanding, India did not progress. The man you can not understand is either a Witch or a Saint....

I

The nightmare began when he was still five miles from the campus. For as long as he lived it would be *the nightmare* to him, never far from his unguarded moments. But then a test pilot was a better insurance risk.

The burning of the physics building started it. The building was old and dry; it burned briskly, the flames leaping and dancing on the hill like malicious demons, spearing upward into the night, painting the other buildings with scarlet fingers.

There's been an accident, he thought, and poured kerosene to the old turbine under the hood. It responded nobly; the '73 Ford lunged forward.

An instant later he realized that the other buildings were burning, too; the scarlet fingers were their own.

When he reached the edge of town, the hill was a vast torch. The town sprawled under it, bathed in a sullen glare, dark-shadowed and lurid like a village in hell.

As he got closer to the campus, the streets became clogged with cars. He drove as far as he could, and then he got out and ran. Before he reached the top of the hill, some instinct of self-preservation made him strip

off his tie and turn up his coat collar.

There were no fire trucks, no police cars. There was only the silent, dark-faced crowd, reddened occasionally by a leaping flame, its ranks impenetrable, its hydra-heads impassive. Only its eyes, holding within them their own small flames, seemed alive.

The physics building was a crumbling ruin of stone and glowing coals. Beyond it was a raging sea of fire, melting islands in it—the law building, the library, the journalism school, the gymnasium, the auditorium—For a moment he thought the administration building, which housed the psychology department, was untouched. But that was illusion; it was a shell, blank windows reddened by a dying glow.

It was summer, and the night was hot. The fiery death of what had been one of the Midwest's loveliest and finest universities made it hotter. But he was cold inside as he watched the labor and devotion of a hundred years burning, burning—

A man ran toward the waiting crowd, a crude torch guttering in his hand, his face dark and unreadable, yelling, "Come on! They're running the eggheads now!"

For a moment longer the crowd waited and then, silently, it surged forward. For a few hundred yards he

was carried with it, unable to fight free. At the brink of the hill, it dropped him. He stood there, unmoving, jostled by people who pushed past, not feeling them.

Behind the hill were long rows of wooden apartment buildings. Barracks in a forgotten war, they had been rebuilt here as temporary faculty quarters. As usual, the temporary became permanent; slowly the buildings had rotted.

Now they were burning. They were all wood, and they burned better than wood and stone and tile. The flames roared in the night, and between the flames the forked, black figures ran back and forth. At every exit, the silent crowd waited for them with clubs and pitchforks and axes. Some of the black figures chose the flames instead.

The flames behind him and the flames in front, he watched, and all he could think about was his papers gone, charred and irretrievable, and the intolerable waste of five long years of labor and research. Even the Tool was gone.

Then, in a wave of nausea, the truth hit him. The black figures down there were people, people he knew and liked and respected, professors and their wives and their children. He turned aside and was sick.

As he straightened, he fought the impulse to run down the hill, to scream at the murderous crowd: "Stop it, you maniacs, you blind, killing fools! These are people, like

you, living, working, loving, obeying the laws! You're killing yourself, the finest thing in you, and you're killing your country! Stop before it's too late!"

But it was already too late. Logic said it was futile. He would only die himself. He was important, not for himself but for what he knew and the promise that knowledge held.

Too many good men had died there already.

He closed his eyes and thought of Sylvia Robbins, who was intelligent, beautiful, as good a friend as any man ever had and might have been more if he had given it a chance, and was dying down there. He thought of Dr. William Nugent, that tall, lean, iron-gray man of quick intuitions and relentless determination in his search for the truth. He thought of Dr. Aaron Friedman and Professor Samuel Black and a dozen others.

And he thought: *If you are down there in that hell, my friends, forgive me. Forgive me, all of you, for being logical while you are dying.*

And forgive them—for they know not what they do.

He knew the people that formed this mob, their fears, their passions. He knew the savage motivations that moved them, the frustrations that demanded a scapegoat, the consciousness of guilt, of wrongdoing, of failure that cried out for an external soul to punish, that created one on demand.

They were unable to face the realization of "I was wrong—I made

a mistake. Let's try a new line" that every scientist, every creative thinker must face daily. They needed the age-old, pain-killing drug of "He did it, the Other Guy. He's Evil. He made me Fail!"

And yet, knowing them so well, he did not know enough to stop them. He was five years, perhaps ten years away from the knowledge that he could take down the hill with him into their midst and find the right words and the right actions to make them stop, to turn them back into sane human beings.

The intuitive psychologists like the senator were more capable than the scientists. But it is always easier to drive men insane than to lead them the other way.

As he turned his face away from the terrible sight of wanton murder and destruction, the knowledge that he was helpless was acid in his throat and corrosion in his soul. A boy ran past, scarcely out of high school, surely, and he had a .22 rifle swinging in his hand. "Am I too late?" he shouted.

He didn't wait for an answer. Seeing the burning apartments and the black figures that ran between them, he swung his rifle to his shoulder and snapped off a shot. "Got one!" he exulted, his voice breaking with excitement. "Egghead!"

And John Wilson, egghead, slipped away. As soon as he had passed the fire's reflection, he hugged the shadows and made his way cautiously down the hill. He didn't go near his

car. When he reached level ground, he walked briskly toward town.

Downtown was half-a-dozen blocks of Main Street. It was deserted. Stores and restaurants and theaters were closed, their doors and windows protected behind metal gratings. The streets and sidewalks were cracked and rough; they hadn't been repaired for a long time.

Wilson reached the broad driveway of the bus depot. An old bus, its top battered, windows cracked, paint peeling, waited empty beside a side entrance.

The bus door was open; Wilson climbed aboard and slumped wearily into a back seat. Behind the driver's seat, the flat television screen was on. In the background was a picture of a university burning, Harvard or Caltech. As the camera shifted positions, Wilson saw that it was Harvard.

Senator Bartlett was superimposed upon the flames. He was in uniform, a threadbare, old, gray suit, a ragged blue shirt open at the throat. His unruly hair tumbled down over his forehead, and he brushed it back with a boyish gesture.

The burning university behind him gave him an aura of power he had only pretended to before now. It seemed as if he were a Prophet, as if he commanded the thunderbolt of the Lord and had directed it to strike here and there, to cleanse with fire the citadels of treason.

"My friends," said the senator, sincerity ringing in his voice, the flames behind him like a fiery halo,

"news reaches us within the hour of another university in flames, and I say to you it is a regrettable thing. It is a tragedy. It is a fearful decision that has been forced upon this nation.

"But I say to you that they are not to blame who have thus taken justice into their own hands. They are not to blame who have carried destruction to the home of treason and brought death to traitors.

"They are to blame who have driven the people to this desperate end. And they are paying the price for placing themselves above the people and above the welfare of their country.

"Know now and always that this is not my doing. My only suggestion was that local committees should be formed to decide what your children should be taught and to report any instances of Un-American teaching to my subcommittee on academic practices.

"But if traitors must die that their country live, then let them die—"

Wilson stopped listening. He thought: *If they'd given us a few years more, a few months even— We were on the right track at last; we could see light ahead—*

His guess about the car had been accurate. There was a roadblock on the highway. All cars were being stopped; credentials were being checked. In the bus, Wilson said the right words at the right time; no one suspected he was not a Lowbrow like the rest.

A curious thing happened as the

bus waited to get through. A blue ball of fire drifted down the highway, passing close to the self-appointed committee on credentials. It was closely followed by a red ball. At the roadblock men cringed in fear or fell to the ground or turned and ran.

Wilson knew what it was: St. Elmo's fire, a brush discharge of electricity, red when positive, blue when negative, most often seen at sea in stormy weather.

Sometimes it was called *witch fire*.

At the bus depot in the city, Wilson picked out a phone booth behind a crackling neon sign, to foil the tappers, and, shielding the dial with his body, dialed quickly, nervously. At the other end the phone buzzed twice before it was lifted.

"Mark?" Wilson said quickly. "Is this Mark?"

There was a moment of silence through which came clearly the sound of someone breathing into the other mouthpiece. Then a woman's voice said: "John?"

"Is that you, Emily?" Wilson said. "What's the matter? Is Mark there?"

"Mark's gone," she said flatly, "on business. John . . . we didn't expect . . . we thought you would be—"

"No. It was almost over when I got there. I missed it."

"I'm glad," Emily said. "What do you want, John? I can't talk very long. I'm afraid this phone is tapped."

"Why should your phone be tapped?"

"We knew you." A pause. "Why did you call?"

"I need help, Emily. All I've got is the clothes I'm standing in. I thought you might be glad to hear I'm alive. I thought . . . you and Mark—" His voice trailed away into silence; the silence drew out painfully.

Emily took a breath; it rasped in the phone. "I'm sorry, John. We can't. You'll have to try somewhere else. We're in enough danger without running more risks. For all we know a neighbor or someone may have turned us in to the local committee as intellectuals. We can't afford the disgrace and maybe worse. We've got to think of the children."

After a moment, Wilson said: "I see. You're thinking about the tappers. I'll come out."

"Don't do that!" Emily snapped. "Don't come near the house. They'll be after you now. We can't afford to be connected with you in any way. We aren't intellectuals! We graduated from college, but so did millions of other people. It's the scientists they're after and the teachers. Stay away from us, John!"

"I can't believe I'm hearing you right," Wilson said slowly. "You and Mark . . . you're my best friends. It was just a few hours ago we were talking together, drinking together, laughing—"

"Forget that!" Emily said harshly. "Forget you ever knew us." She paused. "Try to understand. You've

got a plague, John, and it makes no difference how innocent or how right you are. You infect everyone you touch. If you were our friend, as you say, you would want to stay away from us."

"Is that Mark's attitude, too?"

"Yes."

"You mentioned your children," Wilson said softly. "You've got to think of them, you said. Think about them a little more; think about Amy and Mark, Jr. I'm not talking about the world they'll grow up to; you know what that will be as well as I. But when will you be able to look into their eyes, Emily? When will you be able to touch them without guilt, kiss them without feeling like Judas?"

"There are times when a person doesn't have a choice how he will live—it's be a coward and live or a hero and die. Women aren't heroes." There was another pause; Wilson was afraid she would hang up, but he couldn't think of anything to say. "Your best bet, John, is to head for the coast, either one," she continued finally. "I hear that some foreign governments are recruiting scientists and smuggling them out of the country."

"So that's the way it is?" Wilson said gently.

"That's the way it's got to be."

Wilson's heart hardened. "I'll need money, Emily." With one hand he slipped his billfold out of his hip pocket, spread it opened, and thumbed through the bills. There were only four: two tens, a five, and

a one. "I'll need at least a thousand. I've got more than five thousand in the bank, but I can't touch it now. Send me the thousand and I'll mail you a blank check. You can cash it when things quiet down."

"No!" Emily said quickly. "Don't mail us anything. It might be intercepted or traced. We'll send you the money—call it a loan. How do you want it?"

"Cash," Wilson said grimly, feeling like a blackmailer, not caring. "Small bills. Send it to General Delivery, downtown post office, addressed to me. My name's common enough, and they won't be hunting me so soon. Mail it tomorrow, Emily, as soon as the banks open. I can't stay here more than a day or two."

"All right, John." Emily's voice was dry and distant. She had said her last word to him. No, there was one more. "Good-by."

Wilson hung up and leaned back wearily in the booth. He could try to reach Mark, but it would be difficult. Emily wouldn't let him talk to Mark at home, and the office was too dangerous. And he was half-certain that Mark was at home now, letting Emily do the hatchet work.

Cross them off.

The depot was part of a block-long hotel. Wilson watched the depot and the hotel lobby for a few minutes. The parabolic mike on the wall was swinging hesitantly from conversation to conversation, but that was all right. You can't eavesdrop through glass; you have to bug

or tap. No one seemed to be watching. But then he wasn't good at this sort of thing.

He dreaded leaving the booth, but it was a false security. He walked quickly to the hotel registration desk. "I'm . . . ah . . . nervous about fires," he said to the clerk. "Could you give me a room opening onto a fire escape?"

The clerk looked at him curiously, but there was no help for that. "I guess so," he said. "Yes, here's one." He pushed a registration form toward Wilson.

Wilson picked up a pen and without perceptible hesitation wrote: "Gerald Perry." For hometown, he put: "Rochester, New York." For business: "Salesman." For firm: "G.E." For party affiliation: "Democrat." It was still safe enough to be a Democrat; the unaffiliated were the ones under suspicion, the independent voters who swung elections one way or the other. He didn't dare write: "Lowbrow." A precinct worker might visit him, or the clerk might ask for his party card.

"Salesman, eh?" the clerk said, studying the card. "How's business?"

"Lousy," Wilson said.

"That'll be six dollars."

"Sure," Wilson said. "Sure." He put down one of his ten-dollar bills.

The clerk gave him his change and rang for a bellboy. The bellboy was a spry, old man of about seventy. The clerk gave him the room key. "Good night, Mr. Perry."

This time Wilson's reaction was slow. He took a step away before he

swung his head back and said, "Good night."

He got into the creaking, old elevator and turned around. A thin, dark-haired man was staring at something on the registration desk. As the elevator doors slid shut, he looked up. He stared straight at Wilson.

Wilson had never seen him before.

II

The hotel room was just big enough for a double bed, a ratty desk, an uncomfortable-looking overstuffed chair, a lamp, and a luggage rack. There was a tiny closet, a bathroom that was almost as small, and a window. The window opened onto a fire escape.

Wilson looked out. He was on the fifth floor. Rusty metal bars formed steps leading to a dark alley below.

He didn't look for bugs. They were there, no doubt, but he wasn't going to say anything.

He opened the window and sat down at the desk and emptied his pockets onto the ink-stained green blotter. The only incriminating items he could find were the cards in his billfold. There were dozens of them, including a handful of his own imprinted: *John Wilson, Ph.D., Associate Professor, Department of Psychology*. There were cards from other professors and other schools. There were membership cards in professional societies, activity cards, library identification cards, and a host of others.

One by one, he burned them in

the lavatory, crushed the ashes, and flushed them down the drain, saving only his driver's license and a couple of credit cards. He could find nothing else that would give him away as a teacher or an egghead.

Slowly, wearily, he stripped off his clothes and draped them over a hanger where the uneasy breeze would blow away the charred odor of smoke. He drew a hot bath in the cracked old tub and steeped in it, trying to keep his mind away from flames and screams and black figures running. Slowly his taut muscles relaxed. With them, his tangled thoughts straightened out.

He could count on no help, none at all. If he were to get away, he would have to do it alone. That they would try to stop him, that they would be after him soon if they were not already, he had no doubt.

Somehow he should be able to make his knowledge and experience count. He had to. What was he?

He was a physicist specializing in electronics turned psychologist. His experimental work on the electroencephalograph had turned him toward what he had considered for so long a mere intuitive art, without measurements, without experimentally verifiable external data. Then he saw the opportunity for putting psychology on an objective basis.

With others, he had developed the Tool, the vital, investigative device—

His thoughts came to a full stop. The Tool! That was it, the edge he needed. It would take hard work and money to assemble a portable

replica of the complex laboratory model in a few hours, but he could do it. The work he could handle, and unless Emily failed him he would have the money.

He was briefly glad that he had not drawn back from blackmail—which would not have been blackmail if Emily had been the friend she pretended to be. For Emily it would be conscience money and cheap, at that. She had always felt that a financial contribution ended her moral obligation.

The bed's limed oak veneer was peeling. Wilson crawled between thin sheets gratefully and sought sleep. He would need his rest. But it was a long, long time before his mind would stop flipping up pictures before his reluctant eyes, and when he slept, he dreamed of terror.

The door woke him with its thin, woody voice. "Mr. Perry," it whispered. "Mr. Perry!"

The window was still dark. Wilson looked at his watch. The luminescent dial indicated 4:32. Silently Wilson slipped out of bed and into his clothes.

"Mr. Perry," the door said urgently. "There is very little time. I must see you."

Wilson had no intention of seeing anyone at 4:30 in the morning, much less a door, much less a door that called him by a name he had used only once. He knew how it was done, of course: some reasoning device for foiling the bugs. Or for tricking

him into thinking that was what it was for.

He slid out the window and made his way silently down the fire escape, keeping close to the wall in the dark. The last flight of steps screeched as his weight overbalanced it toward the ground. Then he was in the alley. The stairs swung back up noisily. He crouched there, waiting for discovery, but there was no more sound.

A stray beam from the nearby street swirled toward him. The night was filled with smog, strong in his nose, acrid in his throat. Ninth Street was deserted.

Where could he go at 4:30 in the morning?

He started walking south, briskly, working the stiffness out of his legs and the sleep out of his mind. The vital thing was to get out of the area immediately.

An all-night restaurant was open on Twelfth. It was little more than a diner; stools lined a single counter. A sleepy-eyed short-order cook was alone in the place. Disinterestedly, he watched Wilson take a stool and study the menu. Wilson punched his selection.

The cook took a toothpick out of his mouth and said: "It's broke. Some guy yanked out a handful of wires the other day."

"Yeah?" Wilson said, slurring his speech. "I'll have ham 'n' eggs, hotcakes, an' coffee."

"O.K." The cook poured batter out of a metal pitcher onto a black griddle, took a small, thin slice of ham out of the refrigerator and slap-

ped it down beside the pancakes, and with bored skill cracked two eggs one-handed into a skillet.

"Whatsa matter with the gadget?" Wilson asked, nodding at the automatic, high-frequency cooker.

"These fancy machines are always getting out of whack. Besides, they just throw people outa jobs, right? What good is that?"

"Yeah," Wilson said.

"You hear about the big fire?"

"Yeah."

"About time somebody showed those eggheads who's runnin' things," the cook growled. "They're like the cooker—fancy and complicated and always breaking down. Inventing things, throwing people outa work, starting wars, betraying our secrets to anybody that wants 'em. They're no good, and it's time they got wise. The senator'll show 'em."

It was, most certainly, time they got wise. Wilson didn't bother pointing out the inconsistencies in the man's argument. He was thinking about Sylvia and Bill Nugent and Aaron Friedman and Sammy Black. "Yeah," he said.

Wilson lingered over breakfast for an hour, sipping four or five cups of coffee, keeping a wary eye on the front window, but finally he had to leave. The cook was looking at him too often.

He thought of the library and discarded the idea immediately. It was too characteristic, and the local com-



mittee might well have spy-eyes on it for permanent surveillance.

Instead, he walked the streets. Now he was not alone. The sun had come up, and the smog had started to thin. People were hurrying to their jobs; buses rolled noisily along the streets, disgorging their cargoes.

He looked up once to find himself passing the library. *So much*, he thought grimly, *for the subconscious*. The windows and doors were boarded up. The building had died long ago.

He passed the post office and looked at it longingly, but it was too early.

At the corner a newsstand was yelling headlines: "UNIVERSITY BURNS! HUNDREDS DIE IN BLAZE! ARSON SUSPECTED!"

He put a dime into the machine and took the paper into a self-service drug store. He bought a Coke from a dispenser and took it to an empty booth. He spread the paper out on the table.

The front page was devoted to pictures and stories about the fire. One section of a story caught his eye. It said:

Although no witnesses to the start of the holocaust have been identified, local police have denied the rumor that it was set by an incensed mob of townspeople later swollen by additions from surrounding towns and cities.

There is evidence that the blaze was touched off by university teachers themselves in an attempt at

martyrdom to gain sympathy for the egghead cause, asserted a police spokesman, who refused to be quoted directly.

A plot has been uncovered to discredit the Lowbrow movement and the Senate Subcommittee on Academic Practices; this spokesman stated. But the flames spread beyond control, and many of the arsonists and their families were burned alive.

Area law-enforcement officers have been alerted to be on the lookout for university employees who may have escaped the general destruction, and a broadspread appeal has been made to the public to report anyone whose actions or speech is suspicious.

The ashes of the gigantic fire are still being combed for bodies and identification compared with the university roster.

As yet there was no list of the dead and missing. In a black-bordered box was a brief item with a Washington dateline:

Senator Bartlett announced early today that investigators from his staff would aid the authorities in their search for the arsonists. The guilty eggheads, he said, should be charged with arson, murder, and treason and the maximum penalty assessed—if they are brought in alive.

Wilson stared blindly into a corner of the booth. So, he thought grimly, there was an open incitement to murder. The eggheads were guilty

before the investigation began, in spite of such inescapable evidence as wounds and broken bones and Senator Bartlett's own statements on the broadcast of the night before.

But this was a world eaten with a terrible cancer of suspicion and fear. It was a world in which truth was only a weapon to use against your enemies and your neighbors, if you could twist it into the right shape.

It was not exactly a world in which black was white and white was black; it was a world in which no color existed independently of the viewer. There was no objective reality to agree upon.

It was his world, and there was nothing he could do about it but run.

He was a seedy, middle-aged down-and-outer with a gray stubble of beard on his seamed face. Wilson didn't look much better; he hadn't shaved, and he had rumpled his clothes artfully. Wilson tried to get through to the d-and-o with his instructions, but the man just nodded his head vaguely.

There was no help for it. Unless there was trouble, the d-and-o could do the job as well as anyone; if the man was picked up, that was the end of it, and at least he couldn't identify Wilson.

"They'll want identification," Wilson said. "Here's a credit card, and here's the five bucks. Got it straight now?"

"Sure, sure," said the d-and-o. "I

go up to the general delivery window and I—"

"O.K.," Wilson said. "Get going!"

"Can't I have a drink now?" the man whined. "Ain't had a drink yet this morning, and I'm dry." His hand rasped across his mouth. "Lost my job to a gol-durned machine, I did. Eggheads did it. Haven't had a job since."

"Afterwards," Wilson said inflexibly.

"O.K., mister," the man said. "It's your money." He folded the bill crudely and stuffed it into the watch pocket of his dirty pants.

Wilson gave him half a block, watching him through the fly-specked saloon window, and then started after him.

Moving slowly, the d-and-o climbed the broad, post-office steps and disappeared into the dimness under the tall columns. Wilson hurried to keep him in sight.

He felt a moment of panic as he couldn't find his messenger inside, and then he spotted him to the right, up a short flight of stairs. Wilson faded back toward the wall.

The d-and-o ambled up to the broad window marked: GENERAL DELIVERY. He said something to the clerk and showed the credit card. A moment later he collected a small package wrapped in brown paper.

Slowly, while Wilson held his breath, the man turned south toward the side entrance. After a moment, Wilson followed. So did two other men, detaching themselves from a

writing desk near the General Delivery window.

As he passed through the exit, the d-and-o bent and straightened. Wilson's eyes were on his hands. They were empty.

At the door, Wilson looked down. The package was almost invisible behind a scraggly bush. Wilson stooped smoothly and had it and walked on.

He glanced back over his shoulder. The other two pursuers had caught up with the d-and-o; they caught him by the shoulder roughly and spread out his hands. As Wilson walked quickly in the opposite direction, he had a twinge of conscience. He smothered it quickly. They would soon discover their mistake and let the man go, and the d-and-o would consider it cheap if they held him overnight.

He had been betrayed, Wilson knew, and there was no doubt in his mind who had done it. Emily had turned him in, virtuously, with a firm belief that she was sacrificing something precious to save her family, as a mother in other times would have sold her virtue to buy food.

Wilson shrugged. The risk had been necessary. The only thing that bothered him now was whether the package was filled with money or cut paper.

He opened it in the privacy of a barber shop men's room. There was money in it.

He smiled ironically as he stowed the thick bundle of bills away in his billfold and inside coat pocket. It

was as natural for Emily to carry water on both shoulders as it was for him to suspend final judgment until all sides of a question were investigated.

Either way it worked out, Emily was safe.

There are that kind of people in the world. They are the kind who survive under any regime.

Wilson bought himself fifteen minutes in a shower stall and a cellophane-wrapped package of new underclothes. The shower sprays didn't work well, and the underclothes were too big, but he enjoyed them both. He skipped the shave. His face and his suit had reached the proper state of unemptiness.

He got a quick lunch at a stand-up cafeteria. When he finished he walked along the sidewalk reading window signs until he found one he liked. It said: HEARING AIDS.

He pushed his way into the store past a stubborn, automatic door that refused to be automatic. At the rear, an old man looked up from a desk littered with electronic parts and moved to the counter. The flesh-colored, almost invisible cord of a hearing aid was taped to his neck. "I told you," he said in a tense, high-pitched voice, "I don't want no protection—"

"I don't know what you're talking about," Wilson said. "I want a hearing aid, an all-transistor model."

"Mistook you for someone else," the old man said grumpily. "One of these committee hoodlums trying to

get me to contribute. Calls it 'riot insurance.' Broke my door the other day. You don't look hard of hearing."

"It's not for myself; I'm getting it as a present."

"Should have the person come in for tests himself, by rights. Makes a difference what kind of aid you need."

"I know, but I want to get one now. He can get tested later, exchange it if he has to."

"Poor way to do things." He studied Wilson with faded blue eyes. "Well, how much you want to pay? We got 'em in all price ranges."

"Your best."

The old man nodded with just a trace of friendliness now and shuffled toward the rear of the store. He came back with a small box in his hand.

Wilson said: "How's business?"

The old man shook his head. "No good. People got a notion nowadays that there's something wrong with new-fangled gadgets, that people should stay as God made them. Silly fools."

He slapped the box down on the counter and opened it up. He explained the workings of the hearing aid for fifteen minutes before Wilson could get away.

"How much?" Wilson said finally.

"How's that?" said the old man, slipping his hand under his linen jacket to adjust the volume control.

"How much is it?" Wilson said loudly.

"Don't have to shout. That'll be

\$239.95." He looked wistfully at the box. "They don't make 'em like that any more. That's all right, though. They don't buy 'em any more, either."

Wordlessly, Wilson counted out the money.

Directly across the street was an electronic parts store. It was a big place with a counter stretching across the front and all the way down one side. There was no one in the store except a clerk. He looked up surprised as Wilson entered and hurried to the front.

"You've got a workroom, haven't you?" Wilson said without preliminary.

"Sure," the clerk said, nodding his head at the partition behind him. "Best in town."

"I want to do some assembling. I'd like to rent the room and the use of your tools for the rest of the afternoon. I'll pay for whatever parts I use and twenty bucks more."

"O.K.," said the clerk, his eyes wide. "And if you need any help, just yelp. I haven't had a customer in days."

Five hours later Wilson dropped the tiny soldering iron, took the jeweler's magnifying glass out of his eye, and rubbed his eyes wearily. On the bench in front of him was the hearing aid, but the old man across the street would never have recognized it. It was completely rewired and connected to another flat box about the same size. That box, in turn, was connected to a fanlike

antenna of fine wire sewed between the lining and the coat.

The original hearing aid went into his right-hand jacket pocket, the new one into his left-hand pocket. Wilson pressed the tiny bone-conduction speaker to the mastoid behind his left ear, turned on the power, and hoped for the best. He had not tried for too much, but that little, he needed.

It was almost six in the evening when he walked out of the workroom and reached the customer side of the counter. The clerk was idly flipping the pages of a tattered parts catalogue. He looked up. The speaker buzzed.

Curiosity, Wilson translated. "That's one hundred fifty-three bucks, right?"

"Right," said the clerk. "Say, I don't know what your business is . . . I don't want to know . . . but there's a thin, dark-haired guy across the street watching this place. He's been there all afternoon."

Wilson looked through the front window. It was him, all right, the man from the hotel. "Got a back door?"

"Through there. Opens into the alley."

"Thanks. Here's another ten. Forget you ever saw me."

III

The chair car was peeling chromium and worn upholstery. Wilson sat wearily in his upright chair—the tilt-back didn't work—and stared

out his window into the night. The metal wheels clacked as the train picked up speed getting out of the city, and the car swayed gently.

Wilson's eyelids drifted down, and he propped them open again. It had been a long day and an exhausting day, but he couldn't let go. Not yet.

He was on his way. Not to either coast, as Emily had suggested. That was what they'd expect. He was en route to a port city just as convenient as New York or Los Angeles or San Francisco, and it was closer and less obvious. He was on his way to New Orleans.

If he had to leave the North American continent, as he did, he preferred South America over the other possibilities. From hints in professional magazines, he had gleaned the idea that recruiting had been parceled out geographically. The African republics were hiring at New York, and the west coast ports were being used by Australia, the Chinese empire, and the splintered Indian states.

But the best facilities for psychological research were in Brazil and Venezuela; they had some excellent psychologists and sociologists of their own. He had met a number of them at a Pan-American conference in Caracas before it became impossible to get a passport for any kind of conference and asking for one was asking for trouble.

Perhaps Brazil would be the best choice. It was in the middle of a massive economic assault on its un-

exploited resources. The economy was expanding faster than the stock exchange could keep up with it. Research grants would be easy to get, and the grantors would be too busy to pry into what he was doing.

The earphone buzzed softly. "Tickets?" said the conductor.

Wilson straightened up. "I'd like to turn in my chair car ticket on a bedroom or a compartment. I didn't have time to make a reservation."

The conductor's theta rhythms didn't speed up as he made a pretense of checking his reservation cards. "Well, now, I think we can take care of you. We have a bedroom in Car 110 just ahead. Bedroom C. What's the name?"

"Lester Craddock," Wilson said promptly, "with two *d*'s and a *ck*. Thanks, conductor."

"That's all right," he said, his red face pleasant. "Things are a little loose on Wednesdays anyhow."

Within ten minutes Wilson was between cool, nylon sheets. Like himself, they were a little frazzled around the edges, but they were still serviceable.

He let the train's gentle motion rock him to sleep. The nightmare didn't return for a long time.

He woke and the rocking and the *clack-clack* of the wheels was unchanged, but the sunlight was streaming in around the edge of the curtain and through one long, patched tear across it. He looked at his watch: eight o'clock. He had slept for almost ten hours. He could stop running now and start thinking.

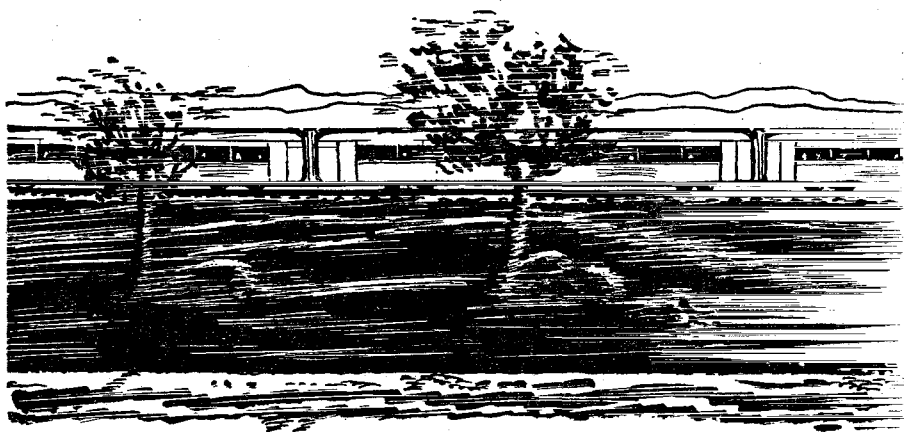
Yesterday, unaware, he had been on the ragged edge of nervous exhaustion. He had blundered ahead haphazardly, riskily. It was a wonder he had not been caught. He had got the money and fixed the Tool, true, but there had been simpler and safer ways to do it. He had been on the verge of hysteria.

Now it was different. He was out of the deadly area unsuspected. He had an aid no one would suspect; not the equal of the room-sized laboratory model, which could almost talk, but the simple analysis of theta brain rhythms gave him a vital warning system, a kind of basic lie detector. And he was on his way.

He got up and washed and shaved with the electric razor he had bought at the station and brushed his teeth with the railroad's toothbrush. He dressed, slipping into the jacket with the heavy pockets, and pressed the speaker button behind his ear. It hummed softly, picking up a reflection of his own brain activity.

Wilson walked down the swaying aisles, listening to the rise and fall in pitch and intensity of the earphone as the theta rhythms changed, watching the faces of the people he passed. No one seemed unduly excited as they looked at him.

When he got back from a leisurely breakfast in the dining car, the room was made up. He settled himself in the chair by the window and stared out at the flat river-bottom land fleeing past him toward the north.



The earth was summer-green and lovely with the sun laying across it. A distant jet liner drew pencil-thin, white vapor trails across the sky. On the glistening ribbon of the tollway looping the hills beside the tracks, a gleaming, new Cadillac Turbojet 500 kept pace with the train for a few miles. Its top was retracted; a girl was driving, and the wind blew out her long, blonde hair, pulling back her head like an anxious lover. And then she raised one white arm in a carefree wave and poured kerosene to the turbine and outdistanced the train within a few seconds.

No one would have suspected, sitting here, looking out upon the fertile land and man's conquest of it, that a blight lay upon the earth, that the world man knew was dying of it. It was not nature that would conquer man; man would conquer himself. He was the only one who could do it.

The blight was antiscience. It seemed like a natural, human thing to be against this neurotic necessity for eternal progress, to long for the simpler, saner life, but it was a basic self-negation of everything that made man human. It attacked the innermost core of man's distinction from the blind forces of the universe, and it would level man back into his old equality with the animals and the vegetation. They didn't adapt their environments; they adapted. That was their method of survival.

Science was not a laboratory or a technology or a gadget; science was a way of life. With his mind, it said, man can understand the universe, and understanding will make it a comfortable, human thing. There were no dark, unfathomable mysteries, no secrets man should not know, no knowledge forbidden.

Deny that, and you opened the door to darkness and despair, to old



superstitions and new fears; you made man a slave again. He had been master now for long generations. He had made earth his, and the space around the earth, and he was reaching out toward the other worlds of the solar system. But now, through some, strange, suicidal psychosis, man was turning upon the quality that set him apart; he was destroying himself.

A wise man could have seen it coming a long time before, could have prepared for it, perhaps, could have fought it. But there was no one wise enough—or if there was, he could not make himself heard, he could not rally support, he was a voice crying in the wilderness.

It had been hard to recognize. Antiscience was a continuous thread through the fabric of man's intellectual history, an antithesis to the thesis of man's conquest of his environment, winning sometimes, los-

ing sometimes, but mostly developing out of the conflict a new synthesis.

So it would have taken a very wise man to have seen that the growing antiscientism of the '50s was different in kind from the absolute antiscientism of the Medieval Church, say. But the Twentieth Century had seen science altering man's environment in a geometric progression, increasing his command of earth's resources, making earth a fairer, more comfortable place in which to live. In this context antiscientism was an ugly revulsion, not a turning away to another frame of reference.

It had not taken the catalyst of war to precipitate incipient distrust into active rebellion. The slow grinding of two great world powers against each other had nurtured it, had held it in, and Senator Bartlett had come out of nowhere to give it vent.

Harvard in the East had been the first to go, then Caltech in the West, and then—Wilson shuddered, remembering.

Houses flashed past the window. The train slowed as it entered a city. In the corridor outside, the conductor called, "Alexandria!" A few minutes later, the train crept up to a station and stopped.

At the university, they had been close to what looked like a solution. If man exhibits symptoms of homicidal insanity, then, truly, the only proper study of mankind is man. If society makes pariahs of those members who had contributed most to what it is, then those members should study society. What was needed was a science of man, call it psychology, mass psychology, sociology, political science, or what you will. And quickly—before *scientist* became a deadly word.

The electroencephalograph, developed and improved, had become their Tool—Sammy Black had called it that and Tool it had been—for supplying external evidence of what goes on inside the head. They had identified and analyzed alpha rhythms, theta rhythms, and delta rhythms, matched them with actions, reactions, stimuli of all kinds—including words.

Words were one of the keys. It is in words that we think usually, and it is in words that we do most of our communication. Through words we learn about the world, and through words society teaches us its social

and cultural patterns. All this makes its impression on language, and in it can be read the structure of society. Words take on emotional and action content; learn to manipulate them properly and you can make people do whatever you wish.

Demagogues had learned that a long time ago. Advertisers had learned it more recently. But they were intuitive artists, and art cannot be taught.

So they had been compiling a Dictionary, the first real dictionary the world had ever had. Later would come an analysis of the structure of language and perhaps the development of the Tool into a true psionic device which would pick up and transmit thoughts themselves.

Now all that was lost, the Dictionary ashes, the Tool twisted, indecipherable metal. Granted the time and the money, it would take him years to get back where they had been. And he was afraid he didn't have years.

It was symptomatic of the scientist's blindness to social values and social dangers that it had taken the shock of a university's murder to make him realize that the Tool was more than a research device; it was a weapon, warning against surprise, a clue to the intentions of his fellow men. As he sat there, thinking, the phone began to buzz. The note climbed slowly in pitch and intensity until it reached a shrillness that brought him to his feet.

The door rattled as someone took hold of the handle. Slowly it swung

inward. He had forgotten to lock it!

In the doorway, his theta rhythms expressing a violent excitement, was the thin, dark-haired man Wilson had seen twice before.

"Dr. Wilson?" he began.

Wilson's fist was already swinging. It caught the man squarely on the jaw. He collapsed slowly, turning a little, his eyes glazing.

Anyone who had followed him this far and knew his name knew too much.

Wilson caught him before he hit the floor, kicked the door shut with his heel, and stowed the man on the broad seat, his face to the cushion. Only then did he notice that the window shade was three-quarters of the way up. Anyone watching on the platform could have spotted him.

There was no one on the platform now. Wilson pulled down the shade, got his little handbag of possessions, picked up a cardboard sign, and walked out of the compartment. He hung the sign on the outside of the door: DO NOT DISTURB.

He strolled down the aisle and out onto the platform. He watched the train pull away.

IV

The used car gave up thirty miles out of Alexandria. The intense turbine temperature melted a concealed crack that had been patched with solder. It blew out with finality. The car had been a gamble that hadn't come through.

Wilson knew the car had been

wrecked. That was the only reason he could pick it up for less than two hundred dollars. But he had hoped that the turbine was as sound as it seemed.

Thoughtfully Wilson crawled out from under the hood just as a sun-yellow Cadillac slid to a stop beside him, its brakes screaming in pain. He had seen the driver before. Her hair matched the car, and she had driven along beside the train that morning.

"Turbine gone?" she called cheerfully.

"Utterly," Wilson said.

"What are you going to do?"

Wilson shrugged. "Walk, I guess, unless some kind driver takes pity on me."

"Don't look at me with those big, brown eyes, guy," she said. "I got a heart like a ripe cantaloupe. Where you going?"

Wilson cast away caution. "New Orleans."

The Cadillac door nearest him slid open. "Hop in. That's where I'm going."

Wilson got in. The door slid shut behind him. Immediately the car began to accelerate quietly, swiftly. Within seconds they were rolling along the tollway at one hundred miles per hour.

"Do you do this often?" Wilson asked dryly. "Pick up strangers, I mean?"

She gave him a swift, sidelong glance. "Sometimes. When they have big, brown eyes."

"Then you've lived a fine, full life,

and I'm surprised it's lasted so long."

"So am I," she said softly. "But then the world is going to hell in a worn-out hack, and who cares?"

The wind had her hair and streamed it out behind, a bright, golden scarf tugging at her head. Her blue eyes were young and alive; her red lips looked soft and warm; her white throat was a smooth, lovely column.

She was no older than twenty-five or twenty-six. A child. Her fingers were bare.

Wilson frowned and looked at the unwinding ribbon of tollway. He had thought all that was finished with Sylvia, but life went on, uncaring.

There was always something just a little phony about blondes, he thought, even the real ones: a reputation, perhaps, that they had to live up to. But there was nothing phony about this one.

Maybe he was just susceptible.

The girl's theta rhythms were swift, and the speaker buzzed in his ear. But there was little oscillation; she just lived faster.

"I've never been in a Cadillac before," he said.

"Poor man?"

"I guess. I never thought about it."

"Good. Nothing different about a Cadillac—got a turbine and four wheels just like a Ford. Fancier is all."

"I've heard they'll go two hundred," Wilson said.

Laughter crinkled her eyes as she glanced at him. "I've had this to two fifty myself. Watch!" She pushed on the accelerator. The car leaped forward. Wind resistance lifted the nose until the rocketlike hood ornament was pointed above the horizon and the car seemed about to take off. The tires whined on the cracked, worn pavement.

The speedometer needle moved swiftly past 150—175—200. At 225, it began to slow. It came to a stop a little past 250.

Wilson tore his eyes away from the broad, pockmarked ribbon of concrete leaping toward him and diving under the car, and he looked at the girl. She was staring straight ahead, her lips parted, her theta rhythms elated.

Over the noise of the wheels, Wilson shouted: "Aren't you afraid the tires will blow?"

"Why?" she shouted.

He shrugged.

"Bother you?" she asked.

She swung out to pass a truck, and Wilson's eyes swiveled involuntarily back to the road. The car rocked perilously on two wheels before it decided to settle back.

"I'm not in this much of a hurry," he said calmly.

"O.K.," she shouted and let up on the accelerator. When the needle had dropped back to 100, she said, "You're all right. When the speedometer reaches two hundred, lots of men reach for the wheel, and when it passes two fifty, pass out."

"I know why it doesn't worry you

to pick up strange men off the tollway," he said grimly. "If they get dangerous, you can scare them to death."

She laughed gleefully and looked very young. "My name's Pat Helman. I'm old Tim Helman's only child, and I have a guilt complex a runway long."

"What have you got to feel guilty about?"

"About being the daughter of a man who cared more about building rocketports and artificial satellites than building a sound society, who put more into the conquest of space than into the conquest of himself. Sometimes, in this car, I can almost outrun my guilt, and then I feel guilty about being a girl who tries to escape from problems instead of staying to solve them."

"Well, then," Wilson said with a brief smile, "hello, Pat Helman." He took a chance. "My name is John Wilson."

"I know," she said. "My job was to watch for you along the tollway."

The sun-yellow Cadillac hurtled southeast along the old tollway toward New Orleans, and Wilson sat back, wordless. Finally he said: "Was it smart to tell me?"

She smiled. "I didn't say I was smart."

"What's to stop me from knocking you out and taking over the car?"

"At one hundred or"—her foot pushed against the accelerator—"one fifty? A Lowbrow might, but you're

a sensible man, Dr. Wilson. You know we'd both be killed if you tried that. And that wouldn't be sensible."

"You give me too much credit," Wilson said gloomily.

"But, if you were a Lowbrow, I'd tell you I had the evil eye." She twisted one blue eye into a malicious squint. "Behave or I'll strike you dead! Actually there's a hypodermic under the seat loaded with ten cubic centimeters of a fast-acting anaesthetic. If I touch the horn, you'll get a shot that will put you out for three to four hours. I don't want to do that, Dr. Wilson."

He moved uneasily on the yellow-plastic seat. "Why not?"

"I like you; I want to help you."

"Help me into the hands of Senator Bartlett?"

"No."

"Who are you working for? The local police? The F.B.I.?"

"No. And I can't tell you who I am working for or what they want with you. I'm just an errand girl, and I don't know enough. Even if I did, I might say the wrong thing. My job is to deliver you to the people who can tell you."

"And because you've been honest twice I'm supposed to trust you this time."

She shook her head. "You're supposed to come along because you must—because we're both in the same car and you can't get out."

"I don't trust you," Wilson growled. "No one who uses force can be trusted."

"Sometimes force is necessary."

When a child is about to walk off a cliff or a homicidal maniac gets his hands on a loaded gun, there's no time to argue."

"I'm neither one nor the other," Wilson said stiffly.

The tires sang to them, and the tollway spun away beneath the tires. Pat glanced at Wilson sideways and said: "This is the world, isn't it? A highpowered car rocketing down the tollway carrying its human passenger willy-nilly toward an unknown destination. The car is human civilization, and I'm the driver. I built it, too, me the scientist, the engineer. I kept streamlining the car and soup-ing up the horsepower; I didn't know where the car was going either, but I wanted to get there in a hurry. Destinations weren't my job. My job was to build a faster car."

"That's right," Wilson said firmly. "It isn't the scientist's job. His job is to find the facts and seek the truth. He can't concern himself with goals because his only reality is what he can locate and what he can measure. Goals can't be measured; they're problems for philosophers."

"And if there are no philosophers or the philosophers are wrong and you know they are wrong, what then, scientist? But you aren't the scientist now. You're the mass of humanity being hurtled along in a juggernaut you don't understand toward a destination you can't imagine. The driver knows the car is going in the wrong direction, too—just as you know, John Wilson, that New

Orleans is the wrong direction for you—but, you see, he isn't really driving. The steering wheel doesn't work.

"The passenger doesn't know that, but he knows that the driver is lost, too, and you are the passenger. You were fascinated by sheer speed, for a while, but at last you know that something is wrong.

"You react blindly to stop the car in the only way you know. You reach over and grab the driver by the throat and start choking him. You've finally realized that this person at the wheel holds your life and death in his hands. You didn't choose him. He usurped that power by the nature of his inherited gifts and his education: he can betray you to the enemy, steal your job or wipe out the necessity for the job, change your society with his inventions, destroy the Earth itself."

"Nobody asked for it," Wilson muttered. "Nobody wanted it."

"It was the inevitable result of man's search for truth. Truth is power, and truth is a weapon against society. Society is built on conventions, not truth, and it must protect its vital falsehoods or die. Society is a stable thing. It isn't going anywhere; it is where it's going.

"A society is exactly what it is; it's the only thing it could be under the external and internal forces that acted on it. And whatever it is is good, whatever it does is right and proper, whether it's building pyra-

mids, crucifying an agitator, or burning witches. Society's function is to protect what it has, to preserve stability above all things."

"But that's static stability," Wilson argued, "and if there's any basic law of the Universe that law is 'Change!'"

"And the creative thinker is the biggest changer of all. He doesn't maintain values; he destroys them as Henry Ford's flivver obsoleted the horse, impoverished the railroads, and developed an entirely new concept of City. The airplane, the atomic power plant, solar power, something new every day to wipe out the capital investment of another industry, another trade.

"Western culture endured this turmoil for more than two hundred years because of the frontier; change was inevitable, and the creative thinker was useful in making change orderly. But the frontier is gone, and society can no longer afford the creative thinker. He threatens what is, and society cannot tolerate a threat. And so the passenger tries to stop the driver and slow down the car to a speed at which he can jump off."

"And he'll only succeed in wrecking the car and killing them both," Wilson said.

"It's too bad," Pat mused, "that the driver of that car doesn't have a hypodermic under the passenger seat of his car. Then he could anaesthetize the passenger and pull over to the side of the road until he could figure out the psychology of

this passenger, how to control him, and where the devil the car was going. Maybe he could develop a dynamic society that could tolerate creative thinkers because it had dynamic stability and dynamic security that would keep it from flying all to pieces when change applied speed."

The speaker squealed in Wilson's ear as the girl's thumb touched the car horn. Wilson's body jumped. For a moment he stared at her with startled eyes.

"You—!" he began accusingly, and leaned toward her, his hands lifting toward her throat. Then they would go no higher. His eyelids dropped; he toppled toward her.

She fended him off with one hand and pushed him over against the right-hand door. "There now, Dr. Wilson," she murmured, "that didn't hurt much, did it?"

Not much, he thought behind closed eyelids, *not much at all. Next time don't warn your victim!*

It was almost noon when they reached New Orleans. As the long, shiny Cadillac coasted to a silent stop at a red light on Tulane Avenue, Wilson leaped over the side of the car and stepped quickly to the sidewalk.

He turned, grinning, and waved at the wide-eyed girl in the Cadillac. "Good-by, Miss Helman. Give my regards to the senator. And thanks for the ride."

He turned and disappeared into the crowd.

V

Wilson paced the narrow room in the *vieux carré*, paused at the window to stare through the intricate, wrought-iron scrollwork at the rolling, yellow smog, and walked back to the desk. He picked up the paper and read the want-ad once more:

MEN—between the ages of 25 and 50 for congenial work in South America; excellent salary, first-class equipment; knowledge of Spanish or

Portuguese helpful but not essential; transportation furnished; write to Box 302, New Orleans Times-Picayune, listing qualifications; replies will be kept confidential.

Wilson threw down the paper impatiently and picked up the letter beside it. It was addressed to George McClure, and it said:

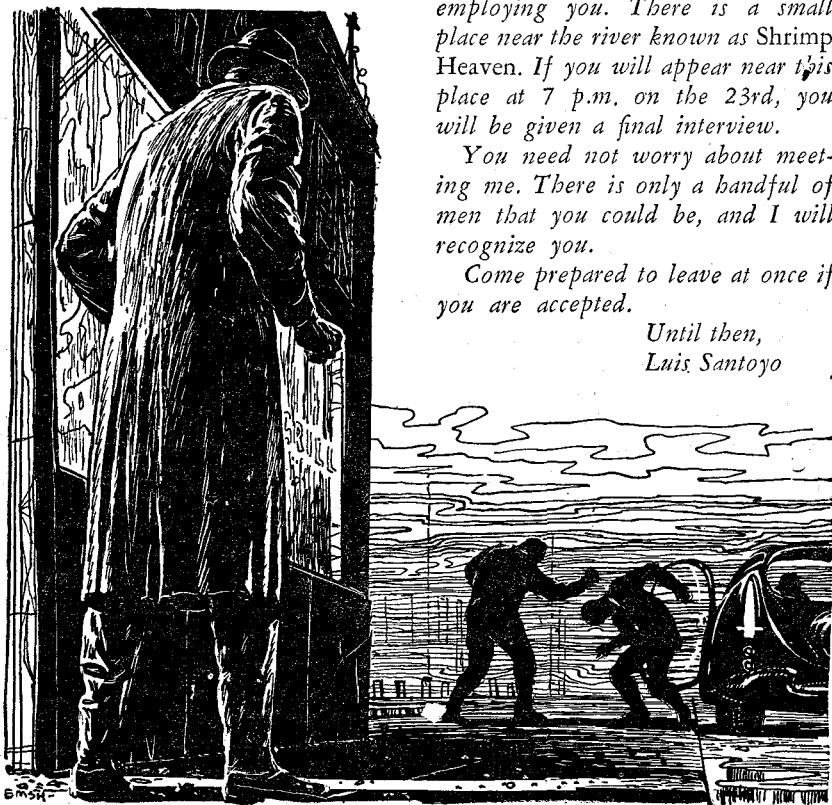
Dear Mr. McClure:

Your qualifications are impressive, and we would be most interested in exploring further the possibilities of employing you. There is a small place near the river known as Shrimp Heaven. If you will appear near this place at 7 p.m. on the 23rd, you will be given a final interview.

You need not worry about meeting me. There is only a handful of men that you could be, and I will recognize you.

Come prepared to leave at once if you are accepted.

Until then,
Luis Santoyo



Everything was authentic, from the delicate Latinity of the phrasing to the characteristic Latin rubrics of the signature. The want-ad, too, had the ring of truth.

Making contact had been an intellectual puzzle, and Wilson had worked at it with all his powers of concentration. It was a difficult, dangerous business, this hiring of scientists and smuggling them out of the country beneath the noses of the authorities and the Lowbrows. Public channels were the only method of communication; they would be minutely watched.

It had been a tense two weeks: finding a place whose owners needed his rent money too badly to report him, watching television and the papers, studying the ads. Some of them were obvious death-traps; others were obviously what they pretended to be. He had discarded them all but one. That one had differences that were vital to a mind trained to the nuances of meaning.

The age bracket: 25 to 50. Fifty is old for a workman but still young for a creative thinker. "First-class equipment . . . transportation furnished . . . replies confidential." They added up meaningfully.

He shrugged: *all right, it was authentic*. The question was—and now he must face it squarely: *Did he want to leave the United States and go to Brazil or Venezuela or Peru?*

No, he didn't. Who would want to leave home? And then he thought: *So Einstein hated to leave*

Germany, so Gamow did not want to leave Russia, so Fermi was reluctant to leave Italy. Like him they had fled from tyranny, placing the environment of the mind above the environment of the body.

But unlike him they had a country to flee to, which did not so much welcome them as admit them and forget them. And inside that country there had been freedom to think and freedom to work, and they had created freely.

What would they have thought of their adopted homeland if they had lived to see it change?

There was no use kidding himself: Brazil was not free nor were any of the other countries that still wanted scientists and technicians. They had frontiers to conquer and new industries to build, but they were going at the job the other way, the planned, heavy-handed way.

But there would be scientists there. They would be working, occasionally, on what they wished. Somehow he would be able to work on the Dictionary and develop the Tool—

And there was no choice when death was on one side.

He turned the paper back to the front page where a long list of names was enclosed in a black-bordered box. Among them were Sylvia Robbins, Aaron Friedman, Samuel Black, and John Wilson. But not William Nugent.

Wilson wondered: had Dr. Nugent been working in Wilson's

apartment? Had he been trapped there by the flames?

It might have been a graduate student, but Wilson did not allow himself to hope. Bill Nugent was dead with the others.

It had been a tense two weeks; it had also been a strange two weeks with what another age would have called signs and portents in the heavens. Great showers of meteors had startled the night sky with green and yellow and red fireballs and lingering trains, with the rumble of thunder and great explosions heard distantly.

Even this age had reacted to it: a wave of speculation had been followed by a larger wave of superstitious fear. Men did not go out at night if they could help it. Wilson wondered where the meteors had come from: it was too early for the Perseids, and no new comets had been reported.

Wilson slipped into a raincoat and pulled a hat down over his forehead. With his new mustache he was hopeful that a stranger could not identify him from a photograph.

Half an hour later he was watching the decaying, old place on the river called *Shrimp Heaven* on a faded sign above a discolored plate-glass window. The smog was thicker here, rolling in from the river, but when it thinned he could see peeling, gilt letters across the window that spelled: BAR AND GRILL. The back of the building stood on pilings above the roiled, yellow Mississippi.

In the next fifteen minutes nobody entered the place and two persons left: no wonder it was decaying. He was the only one who loitered in the neighborhood.

Wilson crossed the swirling street, smelling the damp rot of the river. As he reached the cracked glass of the revolving door, a man loomed out of the fog toward him.

Light streamed yellowly through the window upon his lined face and iron-gray hair. Wilson started. The speaker buzzed excitedly in his ear. He stepped forward, pushing his hat back to expose his face. "Bill—" he began softly. But the other man's eyes swept over Wilson's face without recognition, and he walked past.

Wilson took a step after him and felt a gentle hand on his arm. In Portuguese a liquid voice said softly, "Professor Nugent is being followed. If you think as much of your own preservation, Professor Wilson, as he does, you will pretend to have dropped something."

Wilson took another step forward; the hand fell away from his arm. Wilson looked down at the sidewalk and bent as if to pick something up. As he stooped, a dark car passed, its headlights cutting yellow cones out of the smog. It stopped just ahead of the tall, lean, iron-gray man.

The back door of the car slid open. A man got out and stood on the sidewalk. He was broad-shouldered and thick-necked. Dr. Nugent tried to go around him, but the man moved again to block his way. He

looked down at an object in his hand and back at Dr. Nugent.

Without warning he whipped a big fist into Dr. Nugent's abdomen. Wilson winced, and his fists doubled futilely at his sides. Dr. Nugent doubled up in agony. In swift succession, the man hit him on the back of the neck, raised his knee into Dr. Nugent's face, and hit him in the face as Dr. Nugent reeled back, his face dazed and bloody. He fell against the car and slowly sagged through the door.

The big man on the sidewalk calmly stuffed the legs into the back seat and got in with them. As the door slid shut, the car pulled swiftly away.

The street was silent and empty.

It had happened so quickly that Wilson was still motionless. Now he started forward, but again the hand was a restraint on his arm.

"It is folly to lose two in a futile attempt to save one," said the voice in Portuguese.

Wilson turned. Beside him was a small, dark man of indeterminate age, past his youth certainly and not yet into old age. He was obviously Latin with a dark, little mustache that curled apologetically now. "I am Luis Santoyo," he said. "I regret that I could do nothing for Dr. Nugent."

"Your name isn't Santoyo," Wilson said in fluent Portuguese. "It's Fuentes. I met you in Bogotá."

"You have a good memory, Dr. Wilson," the Brazilian said softly.

"It would be wise to seek a more secluded spot. I have a room inside."

Wilson nodded briefly and followed the lithe, little man through a narrow dining room scattered with a few poorly dressed diners who studiously ignored them. Fuentes skirted a long bar stretched across the back of the room and went through a small door. The room beyond was about eight feet square. Wide floorboards were splintered and bare underfoot. An old fluorescent light flickered and crackled on the ceiling. In the center of the room was a chipped, plastic table and two wrought-iron chairs.

Fuentes shrugged apologetically. "It is ugly but safe. Sit down, Dr. Wilson, and let us talk of witches and ways to escape the flames."

Wilson looked at him sharply. "Witches?"

"You are a witch, my friend, and that is why the outraged people burned your beautiful university. A few escaped, like you and Dr. Nugent, but you cannot run much farther; you cannot escape without help."

Wilson sank down in one of the chairs and shook his head. "Not witches."

"Why not? Witch is only a variant of the word 'wit'—'to know'—and you are man as knower. Witchcraft is the craft of the wise. The medieval witches and magicians considered themselves scientists, too, you know, and performed their experiments in an attempt to subjugate nature. A

witch, my friend, is anyone who has a mysterious power over nature which ordinary mortals cannot attain and who worships gods the people have deserted."

"We worshiped no gods."

"You worshiped the gods of knowledge and truth. They were good for their own sake, you said, regardless of their fruits. But the people deserted those gods a generation ago. They wanted security, not progress; peace of mind, not truth. When a new religion is established in a country, the gods of the old religion become the devils of the new. The devil-worshippers, the men of strange powers, become witches, and witches must burn."

"*'Maleficos non patieris vivere,'* says the Bible. 'Thou shalt not suffer a witch to live.'"

Wilson brushed the back of one hand wearily across his forehead. "Perhaps. It is an easy thing to draw parallels, but it is more difficult to find the truth and to recognize it when you have found it. What does Brazil offer a witch?"

"The honor a witch is due," Fuentes said softly, "when his witchcraft is needed. The fear and respect which are the coins of his payment. And the opportunity to continue his subjugation of the universe."

"Freely?" Wilson asked sharply.

Fuentes shrugged. "What is freedom? A relative thing. In Brazil there is freedom to work as one pleases at one's specialty. On the other hand, there are restrictions on what one may publish or say in pub-

lic which might disturb the people or the orderly processes of government. But then, as a scientist, you should not be interested in the people or in politics."

"That is what many of us thought," Wilson said quietly, "for too long. In our eagerness to conquer our environment, the universe, we failed to realize until too late that society is part of our environment. As the natural environment lost its power to threaten our existence, society became the most important part. We restricted the ability to kill us of fire and flood, of famine, disease, and fanged violence—and we transferred their powers to our fellow men. And then society's threat became personal; it was pointed at us. We were not wise; we should have turned our thoughts and investigations toward society; we should have learned how it functions and why."

"These are not proper subjects for investigation," Fuentes said. "If you come to Brazil, you will have to forget them."

"We let ourselves be the victims of blind political forces and of demagogues," Wilson went on unchecked. "We should have turned onto sociology and psychology the intense, concentrative techniques of the physical sciences. We might have been able to do what the intuitive psychologists and social scientists failed at."

"The time for that is long past," Fuentes said. "Nowhere in the world

is there a place where you can work at that—not in the African republics or the Chinese empire or the Indian states or Australia. And the witch fever runs stronger in Europe and the U.S.S.R. than here. Once, in the political ignorance of half a century ago, it might have been possible. Not only would it mean that present rulers would lose their power, but a true social science would force changes in human values. And *that* humanity cannot tolerate."

So that hope was gone, too. He had been fleeing, after all, only to save his own life. "Yes," Wilson said, his shoulders drooping wearily, "yes. Too late."

"It is possible," Fuentes said gently, "that this reaction against science is partially due to the increased efforts of science in the social and psychological fields. Intuitive politicians warned you away from politics twice: in the '30s and in the '50s. Some of you ignored the warning."

Fuentes looked at Wilson's bent head. "Because you are a great scientist, Dr. Wilson," he said in a brisk, businesslike voice, "Brazil will accept you. But the decision is yours. Will you come?"

Wilson struggled irresolutely. "How do I get there?"

Fuentes pointed beneath the table. "There is a door. Long ago, I understand, it was used during a madness here known as Prohibition. A fast turbine boat waits below. It will speed you to the Gulf, where an atomic submarine waits."

Wilson sighed helplessly. "Let's go."

Together they lifted the plastic table aside. Fuentes knelt on the floor and felt for a handle.

In his ear, the speaker began to scream. Wilson said: "Hurry up! There is danger close."

Fuentes looked up, puzzled, shook his head, and lifted a square door. Beneath it was blackness. Smog drifted dankly up into the room. "Go down, my friend. There is a ladder on this side."

The speaker intensified its shrill warnings of violent theta waves not far away. Wilson lowered himself hesitantly into the hole, his feet groping. He found the rung and went down swiftly until his feet hit a swaying platform.

Strong hands grabbed his arms and held them tightly. A flashlight blazed up into Fuentes' suddenly pale face.

"Thanks," said a harsh voice beside Wilson's ear. "We wanted this one. The senator will be very happy."

VI

Wilson struggled, but the hands holding him were strong. The boat swayed under his feet.

"Quiet, Wilson," the voice grated at him, "or we'll have to quiet you."

Wilson stopped fighting and looked up at Fuentes. The Brazilian's face was twisted and angry. "You must release this man," Fuentes said in shrill English. "The Brazilian

government has extended to him its protection."

"To a criminal?" the man in the boat mocked. "To a convicted arsonist? No, Fuentes, that won't do."

Fuentes shook with passion, staring down into the light. "This is an insult to the Brazilian government. We will not let it go unpunished."

"Any time," the voice said dryly. "Be glad we don't take you along, little man, and drop you into the river with an anchor tied to your feet."

Slowly the passion left Fuentes' face. He looked down wistfully toward Wilson. "You knew that there was danger close," he said quietly. "Almost I think you are a witch, after all. I hope you are. You will need all your craft."

"So long, Fuentes," the voice said. "Send us some more."

The light flicked off. In the darkness, the boat began to move silently away. As it shoved into the grayness above the river, Wilson was pulled down hard onto a seat thinly padded with foam rubber. Rope was twisted tightly around his wrists; they were tied to something behind him.

Before his fingers became too numb, he felt it; it was a cleat fastened to the side of the boat. He tugged at it, but it was solid. The possibility of jumping overboard was gone.

The boat picked up speed in the river, the only sound the bubbling of the propellers in the water; it glided through the fog without run-

ning lights. "Well, Wilson," the harsh voice said, "you ran a long way to fall right into our arms."

"I gave you a chase, anyway," Wilson said wearily.

"What chase? Who followed you? We knew you'd head for a port; so we waited for you. We know all the recruiters; we read their mail and bug their offices and favorite meeting spots. Once in a while we let them smuggle out a small-timer just so they don't get discouraged. But we wanted you and Nugent here. You're the fall guys for the great Egghead Plot."

"Nugent? Here?"

"Yeah. But he ain't in any condition to talk."

There was suddenly a slight wave of heat. It played over Wilson for a moment, and he heard a sound in the air like the flutter of leathery wings. Out of the smog drifted a red ball of fire and then a second one. They touched the radar antenna and clung there, one above the other, lighting up the boat with a dim, reddish radiance.

Wilson had seen it before: *witch fire*.

Wilson was vaguely surprised to notice that the man opposite him was not thin and dark-haired. He was the broad-shouldered hoodlum who had beaten Dr. Nugent.

He had a machine pistol in his hands, but it was forgotten. He was staring over his shoulder at the brush discharge of electricity. "What did Fuentes mean—'witch'?" he asked harshly, swinging around.

"Don't you know?" Wilson's voice was deep. "I can call down the lightning bolt from heaven; I can call forth the fire from the earth. I can bring life to the dying and death to the living. I can take your warped mind and make it sound again."

"Don't make jokes," the voice said uneasily.

The phone, which had quieted, began to buzz louder in Wilson's ear. That was fear. By bringing fire and violence against scientists, the Lowbrow had endowed them in the secret recesses of his mind with a power to match his measures.

"No joke," Wilson said. The witch fire began to fade as its charge leaked away. "In my mind is the power to build a city or to smash one flat, to send a spear crashing through the sky or to bring a star so close you can almost reach out and touch it, to make man as wealthy and as powerful as the ancient gods or to make him a beggar among untouchable wealth. I am all-powerful; I am Man the Witch, the seeker after mysteries, the knower of all things, the doer to whom nothing is sacred, nothing too difficult—"

"Shut up!" said the hoodlum. The witch fire had disappeared; in the darkness Wilson listened to the Lowbrow's theta rhythms, violent and swift, and waited. "No wonder the senator says you're all traitors," the Lowbrow said, swearing crudely. "No wonder he says you got to die. You don't care about people or the United States or anything. All you



care about is your laboratories and your experiments, and let the devil take the hindmost."

"As he will take you, my friend," Wilson said quietly.

The man cursed savagely. There was a whisper of movement in the darkness. The earphone squealed in an ascending scale. Wilson was waiting. As the Lowbrow lunged, Wilson's foot caught him in the face. Cartilage yielded as he shoved. As the man hurtled backward, Wilson felt a deep, atavistic sense of savage satisfaction.

Somewhere forward, metal tore tinnily. Feet moved in the darkness.

Wilson was yanking at the cord, but he succeeded only in cutting it into the flesh of his wrists. His hands got wet and slippery, but the rope held them tight.

Something was hovering in the darkness above. Wilson had a vague sensation of heat, and then he heard a thin tinkling of broken glass. Wilson caught a whiff of something acrid and sulphurous before he stopped breathing.

He held his breath as long as he could. When he had to release it, the odor was gone. Something thumped lightly to the deck near him.

In a moment he felt fingers plucking at the rope that held his wrists. They stopped briefly.

"Ugh!" said a feminine voice. "Blood!"

"What did you expect," Wilson asked impatiently, "ice water?"

"Your old self, eh, Dr. Wilson?"

Something sawed at the ropes. "What was that sulphurous stink?" he growled.

"A fast-acting anaesthetic. Quick thinking to hold your breath. Actually the hell-and-brimstone was gratuitous. Just for effect."

"Like the St. Elmo's fire?"

"Yes. We have a generator."

The ropes fell away from his wrists. Wilson flexed them experimentally and decided they would still work. "Dr. Nugent is aboard somewhere."

"Let's find him."

A hand found his and led him forward in the darkness. "How are you getting around?" he asked. "Infrared?"

"Exactly. Some more of the mumbo jumbo. Just a minute. Here's the man you kicked. He isn't very pretty. But then he wasn't very pretty to start with."

The girl had stopped. She released his hand. There was a sharp, little hiss in the darkness.

"What was that?" Wilson asked.

"Hypodermic," she said briefly.

"Make certain he stays asleep until we get away. Also induces an innocuous but uncomfortable and long-lasting disease resembling shingles. And, incidentally, tattoos him with a witch's mark—in this case a red and blue conventionalized atomic symbol. Satisfied?"

"Why not kill him?"

"Dr. Wilson! Besides, he's more use to us alive. He can spread the word that there are witches abroad,

and he will carry a secret guilt—as he carries our mark—to his grave. He will swear that you and Dr. Nugent are dead. In his world that's the only way he and the others can survive."

"Who are you anyway?" Wilson asked as she took his hand again and led him forward, twisting through a narrow doorway and into a cabin. Twice more he heard the brief hiss of the hypodermic.

"We're witches," she said lightly. "Like you."

"Seriously," Wilson insisted.

"Very seriously," she replied. "The day of the scientist in the free society is gone; we must be witches in another kind of society. Here's Dr. Nugent. Can you carry him?"

Wilson slipped his hands under the man lying unconscious in what felt like a bunk. He lifted him and held him against his chest. Nugent's body was heavy but not as heavy as Wilson had expected. The long chase had gaunted him.

"Your voice is familiar," Wilson said, frowning. "I should know you."

"You should," she agreed and guided him by an elbow.

"Why should I trust you?"

"Are we back to that again?" she asked impatiently. "What else can you do?"

"The girl in the Cadillac," Wilson said suddenly. "Pat Helman."

"The same."

"You aren't alone."

"No. There are a few others, some scientists, some laymen, but eggheads

all. A decade ago some of them decided that the pressing need for research was in society itself. They didn't learn much, but they learned enough to know that it was time to hide. The Lowbrow movement—whatever its name—was inevitable."

"Did they do anything except hide?"

"You've just seen what they have done. They have begun the creation of a myth. The Lowbrow movement can't be stopped, but it can be guided—with skill and luck. Instead of the disintegration of civilization, there will be a slowing down. Instead of smashing up the car, Dr. Wilson, we're going to brake it. We're going to pull it over to the side of the road and figure out how to control the passenger and how to make the steering mechanism work.

"Here's a stretcher," she said briskly. "Put Dr. Nugent in it."

There were ropes at the four ends of the stretcher. As soon as Wilson lowered Nugent's body onto the canvas, it was whisked away.

"In a generation," the girl said, "cities will cease to exist as social and economic entities. Men will stop using industrial machinery; no one will be able to make it or to keep it in repair. The population will plummet during an interregnum of starvation and violence. If we are successful, the people who are left will live in small, self-supporting communities. Witches will live among them, part of them, helping and learning."

"You talk very glibly for an errand girl," Wilson said dryly.

"Hanging around eggheads, you pick it up. Besides, where can you go? You can stay here with Sleeping Beauty or you can climb this ladder with me."

She put a snaky, metal rung in his hand. He took a deep breath. "What can I lose?" he said. He started up the ladder. It swayed under him.

The leathery swish was loud as he came through an open hatch into the body of the helicopter. By the dim radiance from a strip of fluorescent paint circling the narrow cabin, he saw a hand extended to help him up.

It pulled him close to a face he had been expecting: the face of a thin, dark-haired man he had seen three times before—once in a hotel lobby, once outside an electronic parts store, and once in the doorway of a railway bedroom.

Irony: the man he had been evading was help, and he had run away from him and run straight into the hands of the Lowbrows.

Wilson dropped the hand and pulled back toward the side of the ship, feeling a vague distaste for all this mummery; mixed up in it was a feeling of disillusion about his own judgment. The ship was rising, which meant there was a third person, a pilot, forward.

Beside the open hatch in the helicopter's belly was the stretcher. On it was Dr. Nugent, breathing ster-

torously, his face bruised and stained with blood.

Through the hatch came Pat. She was wearing a conical hat and a black robe. Heavy goggles masked her eyes, and a hooked nose drooped toward a fanged mouth.

"Laugh, damn it!" she said. "This isn't my idea." She stripped off the goggles and the nose and removed the fangs; once more she was merely a very pretty girl.

Not "*merely*," Wilson thought. Certainly not *merely*.

"I think it's going too far," Pat said.

Wilson didn't feel like laughing. "All right. The masquerade is over; it's time to unmask. Who are you?"

"Witches," said the dark-haired man. "If you want a personal handle, it's Pike. But that isn't important now. The question is: who are you?"

VII

An angry pulse began to beat in Wilson's temple. He had run too far and too fast and too long. "You know who I am!"

"Dr. John Wilson, associate professor of psychology, who knows everything and has learned nothing?"

Wilson stared at Pike blankly. The man was serious. "What are you talking about?"

"You," Pike said calmly. "You just can't admit that you were wrong, can you? That you were a fool, that you were mistaken?"

"Wrong?" Wilson repeated. "I

ASTOUNDING SCIENCE FICTION

thought your purpose was to rescue me from the Lowbrows. Was I wrong about that?"

"Yes. Our purpose was to rescue you from yourself. But we make mistakes, too. We can deliver you to Fuentes' sub. Is that what you want—to run to Brazil?"

Wilson ran his tongue over dry lips. "There's no alternative, is there?"

"Consistently Aristotelian, aren't you, Dr. Wilson? With you it must always be alternatives: black or white; good or bad; run and live or stay and die."

"It boils down to that," Wilson said coldly. His temper was back under control. The long flight and the long peril had worn his nerves thin; he thought he had found friends, that he could relax. That was his mistake. These people were scheming maniacs playing on the superstitions of morons. "A man who refuses to choose a side is a coward."

"And a man who chooses a side without recognizing that he is probably wrong is a fool. You can't choose sides against humanity. The human problems must be lived with. You're a fool, John Wilson, and worse—you're a fool who knows he is right, who is sure that he has the Answers if They will only listen. You're no different from the Lowbrows. You haven't learned anything, and you don't want to learn."

Wilson's hand touched the cabin wall behind him. It was real and solid, not dream stuff. "If that's what

you think of me, you went to a lot of trouble to get me away from the Lowbrows." Even to himself, his voice sounded plaintive and rejected.

Pike shrugged. "Life isn't mathematics, and the rules aren't interchangeable. You can't add two and two and get four in human values. To make a worthwhile member of the human race is equal to whatever effort is necessary."

"Go to hell!" Wilson growled. "Nobody asked to be saved."

"Still sure you're right, aren't you? Still sure the mob that burned the university was wrong. After everything that has happened to you, you haven't rearranged a hair of one of your beliefs."

"Why should I?"

Pike studied him as if Wilson were a specimen under his microscope. "Because you're wrong, John Wilson. You're as wrong as Senator Bartlett, who acted out of his convictions, too. You think that because you're a little brainier than the Lowbrows your convictions are superior; it isn't true. Because you can manipulate a few people, because you taunted that poor Lowbrow in the boat into jumping you, you think that you know people. Nuts, Dr. Wilson! Senator Bartlett knows more about people than you will ever know. He accepts them for what they are, and he manipulates them by the millions. By any standard, you are a failure."

Wilson glanced helplessly at Pat. In her eyes he read something he

did not want: a deep, impotent pity. Quickly he looked back at Pike and something he could face.

"You blame the Lowbrow because he wants security more than truth," Pike said evenly. "But nobody wants security more than you do. You want the world to admit how right you are, no matter what the truth is—because then you won't have to change your beliefs. The Lowbrow seeks his security in human convictions and faiths and strong attachments; you seek your security in the assurance of Absolute Law. Both are static; both are equally deadly.

"There are no Absolute Laws in human affairs, Dr. Wilson. There are only eternal variables. A static philosophy and a static society cannot contain them. For a little while they will compress humanity until, warped and twisted, humanity bursts the molds."

"You have all the answers, don't you?" Wilson snapped angrily.

"We don't have any of them. We have only the answers that failed. The universities were one of them. They had to burn; they earned it."

"You're mad; utterly mad!"

"Too long they served as fortresses of isolation, walling in the learned man, the eggheads of yesterday and today, insulating them from humanity and its problems. What you were doing was so much more important than the problems of the little man who kept tugging at your sleeve, trying to get your attention. Finally he had to try something else. He gave you exactly the kind of trouble

he had: insecurity and the fear of sudden death. Maybe, his instincts said, he could learn something from your efforts to solve the problem.

"He was wrong. Your only solution was to run, seeking a place where the lightning had not struck, where the fortresses were still unbroken. You couldn't learn to live with this new situation and adjust your convictions to this new reality. And you ran, angry at the impatient child who had a temper tantrum, unable to recognize that it was your fault for provoking a temper tantrum in someone inherently incapable of patience."

"Sylvia Robbins died in that temper tantrum," Wilson said unsteadily, rage shaking his voice.

"Sylvia Robbins had to die. And Aaron Friedman and Sammy Black and a hundred others. You can't make an omelette without breaking a few eggheads. The eggheads sealed themselves into shells, and they had to be broken out. They were kicked out because they didn't have the guts to do it themselves.

"As an evolutionary experiment, the scientist's isolation was an expensive failure. Nature has a way of scrapping failures. The eggheads are being scrapped now so that the components can be used for more valuable organisms."

Wilson's control snapped. He swung forward, his hands doubled into fists. "You—"

Pike's fist was there first. For Wilson the thin, fluorescent strip jiggled and blurred and went out.

When Wilson opened his eyes, he was on the floor of the helicopter, his head cradled in something soft and alive. It was Pat Helman's lap.

Pike was standing above him, fingering his jaw reminiscently. "I can be human, too," he said wryly.

Wilson brought his arm up over his eyes and pressed it down hard, fighting to keep himself intact. The most terrible sound in the world is the shattering of a lifelong set of values at the touch of reality.

For the first time Wilson looked at the facts straight-on, not refracted through the imperfect prism of his convictions: his values had not been able to save the university. If Pike was right, they had carried the torch to it themselves. They had led him right into the hands of the Lowbrows, and in the crucial test, they had broken, just as the Lowbrow's control had broken in the boat below.

That he had been knocked out was immaterial. That he had turned to force was an admission that his beliefs were unable to survive the first verbal attack. And his subconscious knew it.

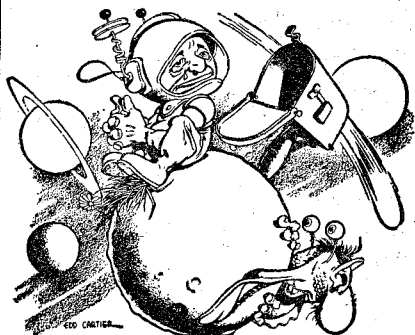
Wilson groaned and pulled his arm away. He looked up at Pike. "If the world we have is no good, if the age of science has failed," he asked, "what have you got to take its place?"

Pike shrugged helplessly. "We don't know enough to tell you. We don't even know what we need in order to know. New facts, perhaps, or a new way of thinking about the

facts we have. But I'll tell you what we offer: a chance at a world without security, a world in which insecurity is accepted as the right and proper state of man, a world in which death is certain, in which the only constant is man's determination that death shall not be in vain and that the life before that death shall be a challenge—for challenge is inescapable by the nature of the universe."

Wilson sat up, and his mind shattered into brittle shards of pain. "What crazy kind of a world is that?"

"The world that is coming, inevitably. As witches perhaps we can shorten to a century or so the mil-



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WITCHES MUST BURN

89

lennial grinding of the millstones of the universe."

"A world of poverty and superstition?" Wilson sneered. "If that's the world that's coming, I'd rather not live to see it."

"Perhaps so," Pike said soberly. "It takes a great courage to face an uncertain future, even more when the future may bring a complete reversal of all your convictions, must surely bring it, when you will have to change your basic beliefs and work for ways of life you learned to hate with your mother's milk."

"How will you escape the flames?"

"Today scientist-witches are burned because the uncertainty of the age demands scapegoats. Self-doubt breeds self-hate and uncertainty breeds brutality. In the burning of the witch a social poison is excreted; the witch dies for the people."

"In time men will learn to live with uncertainty because they must, and then the witch-scientist will be restored to his ancient position and his ancient authority: the wise man of the village, who wields mysterious control over the forces of nature—for the benefit of the village. Witchcraft will be an integral part of the social inheritance; it will be what it once was—a search for truth in an uncertain world."

"But the scientist-witch must burn. He hasn't learned anything in three hundred years; no, not in three hundred centuries. His reaction to danger is still the reaction of the dawn man: fight or flight."

Wilson frowned, trying to

straighten out his thoughts. "What do you want me to do?" he said in a low voice.

Pike looked at Pat for a moment and sighed. "Come down out of your ivory tower, Dr. Wilson. Become plain John Wilson, an ordinary, struggling, suffering citizen. Try living with the great problem of our day, not fighting it or running from it. Find out how the people think, but more important, how they feel and hate and love."

"And when you have learned that much, perhaps you will have learned what you can do to make their lives—and yours—more successful."

"Live with the Lowbrows?" Wilson repeated incredulously.

"More," Pike said. "Be one of them. Force yourself to admit their viewpoint into your understanding. Discover, as a psychologist, what your patient really is and how to cure him, rather than demanding that the patient be some hypothetical patient you can cure. Try to understand why the witch-burner and the witch are children of the same confusion, fathered by the same inner necessity. Learn to sympathize with the emotional need for scapegoats in an era of bewilderment when old gods are toppling and old ways of life are failing."

"I'll be caught!" Wilson exclaimed.

"Not if you really become a Lowbrow. What about it, John Wilson? Do you have the guts to admit you might be wrong, that you could learn

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something that would change your view of the universe, perhaps your way of life?"

Wilson hauled himself to his feet. Past the curved, plastic window, trailing fingers of fog thinned and then were gone. The night was clear; the stars were brilliant and hard in the blackness. As Wilson watched, one of the stars fell and streaked across the horizon like a green ball of flame, leaving behind it a fading train.

But it was not that easy for Wilson to climb above the fog and see the stars. *Perhaps he was wrong. If failure is the consequence of wrong ideas and disaster, of incorrect convictions, he was wrong.*

But knowing it intellectually and realizing it emotionally were quite different things.

Could he face the fact that he might be wrong, as wrong as the Lowbrows? Could he take the chance that he might one day admit it—and be forced to change or die?

Did he have the guts to take his convictions in his hand and cast them out and see how they fell?

Blindly Wilson reached out for strength and understanding. He found Pat's hand.

He clung to it desperately, the only solid thing in a protean world.

VIII

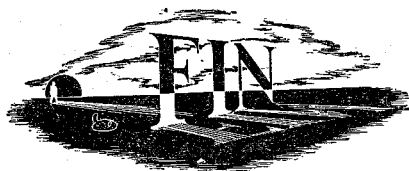
Three months and five shattered universities later, a man in work-stained clothing walked along the top of a hill that had once housed knowledge, and the ashes were ugly and black on either side of him. He descended the steep sidewalk, alone, and reached Main Street and walked north.

He had no illusions about what he was going to do. It was a hard, bitter road he was about to walk, and everyone would line the road to stone him, eggheads and Lowbrows, scientists and laymen. Death might lie at the end of it, and it would be an ugly, brutal death as such occasions' always are.

But he knew, now, why the people needed scapegoats, and only at the end of the road could he find the truth about himself.

He turned east one block. He went through the doorway of the old, brick police building and found a room where a uniformed police officer sat behind a desk.

"My name is John Wilson," he said evenly. "I think you are looking for me."



TOP SECRET

BY ERIC FRANK RUSSELL

Illustrated by van Dongen

Man invented speech a long time ago. Later they invented writing. After due consideration of Russell's theme here, I begin to understand why verbal relaying wasn't satisfactory.

Ashmore said, with irritating phlegmaticism, "The Zengs have everything to gain and nothing to lose by remaining friendly with us. I'm not worried about them."

"But I am," rasped General Railton. "I am paid to worry. It's my job. If the Zeng empire launches a treacherous attack upon ours and gains some initial successes, who'll get the blame? Who'll make wholesale accusations of military unpreparedness and for whose blood will the masses howl?" He tapped his two rows of medal ribbons. "Mine!"

"Understanding your position, I cannot share your alarm," maintained Ashmore, refusing to budge. "The Zeng empire is less than half the size of ours. The Zengs are an amiable and co-operative form of life and we've been on excellent terms with them since the first day of contact."

"I'll grant you all that." General Railton tugged furiously at his large

and luxuriant mustache while he examined the great star map that covered an entire wall. "I have to consider things purely from the military viewpoint. It's my task to look to the future and expect the worst."

"Well, what's worrying you in particular?" Ashmore invited.

"Two things." Railton placed an authoritative finger on the star map. "Right here we hold a fairly new planet called Motan. You can see where it is—out in the wilds, far beyond our long-established frontiers. It's located in the middle of a close-packed group of solar systems, a stellar array that represents an important junction in space."

"I know all that."

"At Motan we've got a foothold of immense strategic value. We're in ambush on the crossroads, so to speak. Twenty thousand Terrans are there, complete with two spaceports and twenty-four light cruisers." He



glanced at the other. "And what happens?"

Ashmore offered no comment.

"The Zengs," said Railton, making a personal grievance of it, "move in and take over two nearby planets in the same group."

"With our agreement," Ashmore reminded. "We did not need those two planets. The Zengs did want them. They put in a polite and correct request for permission to take over. Greenwood told them to help themselves."

"Greenwood," exploded Railton,

"is something I could describe in detail were it not for my oath of loyalty."

"Let it pass," suggested Ashmore, wearily. "If he blundered, he did so with the full approval of the World Council."

"The World Council," Railton snorted. "All they're interested in is exploration, discovery and trade. All they can think of is culture and cash. They're completely devoid of any sense of peril."

"Not being military officers," Ashmore pointed out, "they can

hardly be expected to exist in a state of perpetual apprehension."

"Mine's not without cause." Railton had another go at uprooting the mustaches. "The Zengs craftily position themselves adjacent to Motan." He swept spread fingers across the map in a wide arc. "And all over here are Zeng outposts mixed up with ours. No orderliness about it, no system. A mob, sir, a scattered mob."

"That's natural when two empires overlap," informed Ashmore. "And, after all, the mighty cosmos isn't a parade ground."

Ignoring that, Railton said pointedly, "Then a cipher book disappears."

"It was shipped back on the *Laura Lindsay*. She blew apart and was a total loss. You know that."

"I know only what they see fit to tell me. I don't know that the book was actually on the ship. If it was not, where is it? Who's got it? What's he doing with it?" He waited for comment that did not come; finished, "So I had to move heaven and earth to get that cipher canceled and have copies of a new one sent out."

"Accidents happen," said Ashmore.

"Today," continued Railton, "I discover that Commander Hunter, on Motan, has been given the usual fat-headed emergency order. If war breaks out, he must fight a defensive action and hold the planet at all costs."

"What's wrong with that?"

Staring at him incredulously, Railton growled, "And him with twenty-four light cruisers. Not to mention two new battleships soon to follow."

"I don't quite understand."

"Wars," explained Railton, as one would to a child, "cannot be fought without armed ships. Ships cannot function usefully without instructions based on careful appraisal of tactical necessities. Somebody has to plan and give orders. The orders have to be received by those appointed to carry them out."

"So—?"

"How can Zeng warships receive and obey orders if their planetary beam stations have been destroyed?"

"You think that immediately war breaks out the forces on Motan should bomb every beam station within reach?"

"Most certainly, man!" Railton looked pleased at long last. "The instant the Zengs attack we've got to retaliate against their beam stations. That's tantamount to depriving them of their eyes and ears. Motan must be fully prepared to do its share. Commander Hunter's orders are out of date, behind the times, in fact plain stupid. The sooner they're rectified, the better."

"You're the boss," Ashmore reminded. "You've the authority to have them changed."

"That's exactly what I intend to do. I am sending Hunter appropriate instructions at once. And not by direct beam either." He indicated the map again. "In this messy mud-

dle there are fifty or more Zeng beam stations lying on the straight line between here and there. How do we know how much stuff they're picking up and deciphering?"

"The only alternative is the tight beam," Ashmore said. "And that takes ten times as long. It zigzags all over the starfield from one station to another."

"But it's a thousand times safer and surer," Railton riposted. "Motan's station has just been completed and now's the time to make use of the fact. I'll send new instructions by tight beam, in straight language and leave no room for misunderstanding."

He spent twenty minutes composing a suitable message, finally got it to his satisfaction. Ashmore read it, could suggest no improvements. In due course it flashed out to Centauri, the first staging-post across the galaxy.

In event of hostile action in your sector the war must be fought to outstretch and rive all enemy's chief lines of communication.

"That," said Railton, "expresses it broadly enough to show Hunter what's wanted but still leave him with some initiative."

At Centauri the message was unscrambled, read off in clear, read into another beam of different frequency, scrambling and angle, boosted to the next nearest station. There it was sorted out, read off in clear, repeated into another beam and squirted onward.

It went leftward, rightward, up-

ward, downward, and was dutifully recited eighteen times by voices ranging from Terran-American deep-South-suh to Bootean-Ansanite far-North-yezzah. But it got there just the same.

Yes, it got there.

Lounging behind his desk, Commander Hunter glanced idly at the Motan thirty-hour clock, gave a wide yawn, wondered for the hundredth time whether it was something in the alien atmosphere that gave him the gapes. A knock sounded on his office door.

"Come in!"

Tyler entered, red-nosed and sniffy as usual. He saluted, dumped a signal form on the desk. "Message from Terra, sir." He saluted again and marched out, sniffing as he went.

Picking it up, Hunter yawned again as he looked at it. Then his mouth clapped shut with a hearable crack of jawbones. He sat bolt upright, eyes popping, read it a second time.

Ex Terra Space Control. Tight Beam, Straight. TOP SECRET. To Motan. An event of hospitality your section the foremost when forty-two ostriches arrive on any cheap line of communication.

Holding it in one hand he walked widdershins three times round the room, but it made no difference. The message still said what it said.

So he reseated himself, reached for the phone and bawled, "Maxwell? Is Maxwell there? Send him in at once!"

Maxwell appeared within a couple of minutes. He was a long, lean character who constantly maintained an expression of chronic disillusionment. Sighing deeply, he sat down.

"What's it this time, Felix?"

"Now," said Hunter, in the manner of a dentist about to reach for the big one at the back, "you're this planet's chief equipment officer. What you don't know about stores, supplies and equipment isn't worth knowing, eh?"

"I wouldn't go so far as to say that. I—"

"You know *everything* about equipment," insisted Hunter, ascending a step higher up the tonic solfa, "else you've no right to be here and taking money for it. You're skinning the Terran taxpayer by false pretenses."

"Calm down, Felix," urged Maxwell. "I've a bellyful of troubles of my own." His questing eyes found the paper in the other's hand. "I take it that something's been requisitioned of which you don't approve. What is it?"

"Forty-two ostriches," informed Hunter.

Maxwell gave a violent jerk, fell off his chair, regained it and said, "Ha-ha! That's good. Best I've heard in years."

"You can see the joke all right?" asked Hunter, with artificial pleasantness. "You think it a winner?"

"Sure," enthused Maxwell. "It's really rich." He added another ha-ha by way of support.

"Then," said Hunter, a trifle vi-

ciously, "maybe you'll explain it to me because I'm too dumb to get it on my own." He leaned forward, arms akimbo. "*Why* do we require forty-two ostriches, eh? Tell me that!"

"Are you serious?" asked Maxwell, a little dazed.

For answer, Hunter shoved the signal form at him. Maxwell read it, stood up, sat down, read it again, turned it over and carefully perused the blank back.

"Well?" prompted Hunter.

"I've had nothing to do with this," assured Maxwell, hurriedly. He handed back the signal form as though anxious to be rid of it. "It's a Terran-authorized shipment made without demand from this end."

"My limited intelligence enabled me to deduce that much," said Hunter. "But as I have pointed out, you know all about equipment required for given conditions on any given world. All I want from you is information on why Motan needs forty-two ostriches—and what we're supposed to do with them when they come."

"I don't know," Maxwell admitted.

"You don't know?"

"No."

"That's a help." Hunter glowered at the signal. "A very big help."

"How about it being in code?" inquired Maxwell, desperate enough to fish around.

"It says here it's in straight."

"That could be an error."

"All right. We can soon check."

Unlocking a big wall safe, Hunter extracted a brass-bound book, scrambled through its pages. Then he gave it to Maxwell. "See if you can find a reference to ostriches or any reasonable resemblance thereto."

After five minutes Maxwell voiced a dismal, "No."

"Well," persisted Hunter, "have you sent a demand for forty-two of anything that might be misread as ostriches?"

"Not a thing." He meditated a bit, added glumly, "I did order a one-pint blowtorch."

Taking a tight grip on the rim of the desk, Hunter said, "What's that got to do with it?"

"Nothing. I was just thinking. That's what I ordered. You ought to see what I got." He gestured toward the door. "It's right out there in the yard. I had it dragged there for your benefit."

"Let's have a look at it."

Hunter followed him outside, inspected the object of the other's discontent. It had a body slightly bigger than a garbage can, also a nozzle five inches in diameter by three feet in length. Though empty, it was as much as the two could manage merely to lift it.

"What the deuce is it, anyway?" demanded Hunter, scowling.

"A one-pint blowtorch. The consignment note says so."

"Never seen anything like it. We'd better check the stores catalogue." Returning to the office, he dug the tome out of the safe, thumb-

ed through it rapidly, found what he wanted somewhere among the middle pages.

19112. Blowtorch, butane, 1/2 pint capacity.

19112A. Blowtorch, butane, 1 pint capacity.

19112B. Blowtorch (tar-boiler pattern), kerosene, 15 gallons capacity.

19112B(a). Portable trolley for 19112B.

"You've got B in lieu of A," Hunter diagnosed.

"That's right. I order A and I get B."

"Without the trolley."

"Correct."

"Some moron is doing his best." He returned the catalogue to the safe. "You'll have to ship it back. It's a fat lot of use to us without the trolley even if we do find need to boil some tar."

"Oh, I don't know," Maxwell opined. "We can handle it by sheer muscle when the two hundred left-legged men get here."

Hunter plonked himself in his chair, gave the other the hard eye. "Quit beating about the bush. What is on your mind?"

"The last ship," said Maxwell, moodily, "brought two hundred pairs of left-legged rubber thigh-boots."

"The next ship may bring two hundred pairs of right-legged ones to match up," said Hunter. "Plus forty-two ostriches. When that's done we'll be ready for anything. We can defy the cosmos." He suddenly went purple in the face,

snatched up the phone and yelled, "Tyler! Tyler."

When that worthy appeared he said, "Blow your nose and tight-beam this message: *Why forty-two ostriches?*"

It went out, scrambled and unscrambled and rescrambled, upward, downward, rightward, leftward, recited in Sirian-Kham lowlands accents and Terran-Scottish highlands accents and many more. But it got there just the same.

Yes, it got there.

General Railton glanced up from a thick wad of documents and rapped impatiently, "What is it?"

"Top secret message from Motan, sir."

Taking it, Railton looked it over. *We've fought two ostriches.*

"Ashmore!" he yelled. "Pennington! Whittaker!"

They came on the run, lined up before his desk, assumed habitual expressions of innocence. He eyed them as though each was personally responsible for something dastardly.

"What," he demanded, "is the meaning of this?"

He tossed the signal form at Pennington who gave it the glassy eye and passed it to Whittaker who examined it fearfully and got rid of it on Ashmore. The latter scanned it, dumped it back on the desk. Nobody said anything.

"Well," said Railton, "isn't there a useful thought between the three of you?"

Picking up courage, Pennington

ventured, "It must be in code, sir."

"It is clearly and plainly captioned as being in straight."

"That may be so, sir. But it doesn't make sense in straight."

"D'you think I'd have summoned you here if it did make rhyme or reason?" Railton let go a snort that quivered his mustaches. "Bring me the current code book. We'll see if we can get to the bottom of this."

They fetched him the volume then in use, the sixth of Series B. He sought through it at length. So did they, each in turn. No ostriches.

"Try the earlier books," Railton ordered. "Some fool on Motan may have picked up an obsolete issue."

So they staggered in with a stack of thirty volumes, worked back to BA. No ostriches. After that, they commenced on AZ and laboriously headed toward AA.

Pennington, thumbing through AK, let go a yelp of triumph. "Here it is, sir. An ostrich is a food-supply and rationing code-word located in the quartermaster section."

"What does it mean?" inquired Railton, raising expectant eyebrows.

"One gross of fresh eggs," said Pennington, in the manner of one who sweeps aside the veil of mystery.

"Ah!" said Railton, in tones of exaggerated satisfaction. "So at last we know where we stand, don't we? Everything has become clear. On Motan they've beaten off an attack by three hundred fresh eggs, eh?"

Pennington looked crushed.

"Fresh eggs," echoed Ashmore.

"That may be a clue!"

"What sort of clue?" demanded Railton, turning attention his way.

"In olden times," explained Ashmore, "the word fresh meant impudent, cheeky, brazen. And an egg was a person. Also, a hoodlum or thug was known as a hard egg or a tough egg."

"If you're right, that means Motan has resisted a raid by three hundred impertinent crooks."

"Offhand, I just can't think of any more plausible solution," Ashmore confessed.

"It's not credible," decided Railton. "There are no pirates out that way. The only potential menace is the Zengs. If a new and previously unsuspected life form has appeared out there, the message would have said so."

"Maybe they meant they've had trouble with Zengs," suggested Whittaker.

"I doubt it," Railton said. "In the first place, the Zengs would not be so dopey as to start a war by launching a futile attack with a force a mere three hundred strong. In the second place, if the culprits were Zengs the fact could have been stated. On the tight-beam system there's no need for Motan to be obscure."

"That's reasonable enough," Ashmore agreed.

Railton thought things over, said at last, "The message looks like a routine report. It doesn't call for aid or demand fast action. I think we'd better check back. Beam them asking which book they're quoting."

Out it went, up, down and around, via a mixture of voices.

Which code book are you using?

Tyler sniffed, handed it over, saluted, sniffed again and ambled out. Commander Hunter picked it up.

Which goad book are you using?

"Maxwell! Maxwell!" When the other arrived, he said, "There'll never be an end to this. What's a goad hook?"

"I'd have to look it up in the catalogue."

"Meaning that you don't know?"

"There's about fifty kinds of hooks," informed Maxwell, defensively. "And for many of them there are technical names considerably different from space-navy names or even stores equipment names. A tensioning hook, for instance, is better known as a tightener."

"Then let's consult the book." Getting it from the safe, Hunter opened it on the desk while Maxwell positioned himself to look over the other's shoulder. "What'll it be listed under?" Hunter asked. "Goad hooks or hooks, goad? G or H?"

"Might be either."

They sought through both. After checking item by item over half a dozen pages, Maxwell stabbed a finger at a middle column.

"There it is."

Hunter looked closer. "That's *guard* hooks: things for fixing wire fence to steel posts. Where's *goad* hooks?"

"Doesn't seem to be any," Maxwell admitted. Sudden suspicion

flooded his features and he went on, "Say, do you suppose this has anything to do with those ostriches?"

"Darned if I know. But it's highly probable."

"Then," announced Maxwell, "I know what a goad hook is. And you won't find it in that catalogue."

Slamming the book shut, Hunter said wearily, "All right. Proceed to enlighten me."

"I saw a couple of them in use," informed Maxwell, "donkey's years ago, in the movies."

"The movies?"

"Yes. They were showing an ostrich farm in South Africa. When the farmer wanted to extract a particular bird from the flock he used a pole about eight to ten feet long. It had a sort of metal prod on one end and a wide hook at the other. He'd use the sharp end to poke other birds out of the way, then use the hook end to snake the bird he wanted around the bottom of its neck and drag it out."

"Oh," said Hunter, staring at him.

"It's a thing like bishops carry for lugging sinners into the path of righteousness," Maxwell finished.

"Is it really?" said Hunter, blinking a couple of times. "Well, it checks up with that signal about the ostriches." He brooded a bit, went on, "But it implies that there is more than one kind of goad hook. Also that we are presumed to have one especial pattern in stores here. They want to know which one we've got. What are we going to tell them?"

"We haven't got any," Maxwell

pointed out. "What do we need goad hooks for?"

"Ostriches," said Hunter. "Forty-two of them."

Maxwell thought it over. "We've no goad hooks, not one. But they think we have. What's the answer to that?"

"You tell me," Hunter invited.

"That first message warned us that the ostriches were coming on any cheap line of communication, obviously meaning a chartered tramp ship. So they won't get here for quite a time. Meanwhile, somebody has realized that we'll need goad hooks to handle them and shipped a consignment by fast service boat. Then he's discovered that he can't remember which pattern he's sent us. He can't fill up the necessary forms until he knows. He's asking you to give with the information."

"If that's so," commented Hunter, "some folk have a nerve to tight-beam such a request and mark it top secret."

"Back at Terran H.Q.," said Maxwell, "one is not shot at dawn for sabotage, treachery, assassination or any other equally trifling misdeed. One is blindfolded and stood against the wall for not filling up forms, or for filling up the wrong ones, or for filling up the right ones with the wrong details."

"Nuts to that!" snapped Hunter, fed up. "I'm wasting no time getting a headquarters dope out of a jam. We're suppose to have a consignment of goad hooks. We haven't got it. I'm going to say so—in plain

language." He boosted his voice a few decibels. "Tyler! Tyler!"

Half an hour later the signal squirted out, brief, to the point, lacking only its original note of indignation.

No goad hyphen hooks. Motan.

Holding it near the light, Railton examined it right way up and upside-down. His mustaches jittered. His eyes squinted slightly. His complexion assumed a touch of magenta.

"Pennington!" he bellowed. "Saunders! Ashmore! Whittaker!"

Lining up, they looked at the signal form. They shifted edgily around, eyed each other, the floor, the ceiling, the walls. Finally they settled for the uninteresting scene outside the window.

Oh God how I hate mutton.

"Well?" prompted Railton, poking this beamed revelation around his desk.

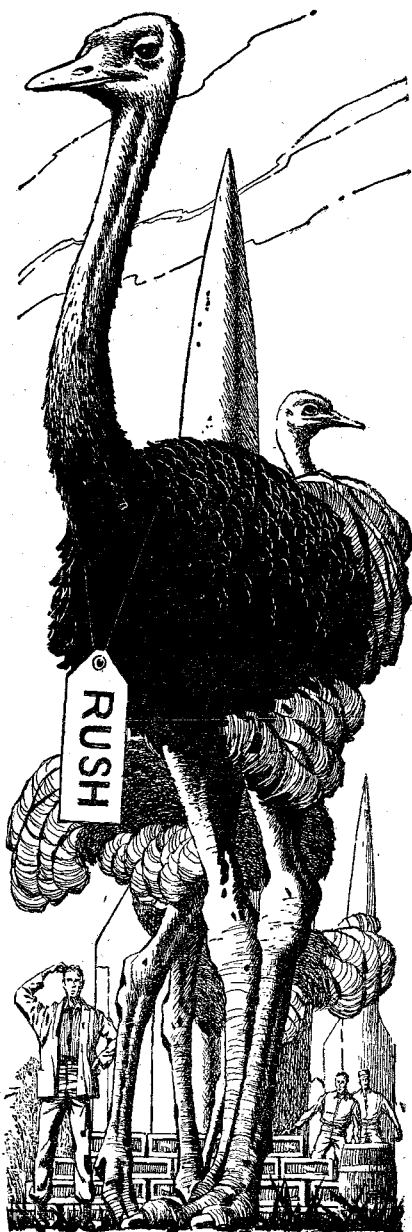
Nobody responded.

"First," Railton pointed out, "they are mixing it with a pair of ostriches. Now they've developed an aversion to mutton. If there's a connection, I fail to see it. There's got to be an explanation somewhere. What is it?"

Nobody knew.

"We might as well," said Railton, "invite the Zengs to accept everything as a gift. It'll save a lot of bloodshed."

Stung by that, Whittaker protested, "Motan is trying to tell us something, sir. They must have cause to express themselves the way they are doing."



"Such as what?"

"Perhaps they have good reason to think that the tight beam is no longer tight. Maybe a Zeng interceptor station has opened right on one of the lines. So Motan is hinting that it's time to stop beaming in straight."

"They could have said so in code, clearly and unmistakably. There's no need to afflict us with all this mysterious stuff about ostriches and mutton."

Up spoke Saunders, upon whom the gift of tongues had descended. "Isn't it possible, sir, that ostrich flesh is referred to as mutton by those who eat it? Or that, perhaps, it bears close resemblance to mutton?"

"*Anything* is possible," shouted Railton, "including the likelihood that everyone on Motan is a few cents short in his mental cash." He fumed a bit, added acidly, "Let us assume that ostrich flesh is identical with mutton. Where does that get us?"

"It could be, sir," persisted Saunders, temporarily drunk with words, "that they've discovered a new and valuable source of food supply in the form of some large, birdlike creature which they call ostriches. Its flesh tastes like mutton. So they've signaled us a broad hint that they're less dependent upon supplementary supplies from here. Maybe at a pinch they can feed themselves for months or years. That, in turn, means the Zengs can't starve them into submission by blasting all supply ships to Motan. So—"

"Shut up!" Railton bawled, slightly frenzied. He snorted hard enough to make the signal form float off his desk. Then he reached for the phone. "Get me the Zoological Department. Yes, that's what I said." He waited a while, growled into the mouthpiece, "Is ostrich flesh edible and, if so, what does it taste like?" Then he listened, slammed the phone down and glowered at the audience. "Leather," he said.

"That doesn't apply to the Motan breed," Saunders pointed out. "You can't judge an alien species by—"

"For the last time, keep quiet!" He shifted his glare to Ashmore. "We can't go any further until we know which code they're using out there."

"It should be the current one, sir. They had strict orders to destroy each preceding copy."

"I know what it *should* be. But is it? We've asked them about this and they've not replied. Ask them again, by *direct* beam. I don't care if the Zengs do pick up the question and answer. They can't make use of the information. They've known for years that we use code as an elementary precaution."

"I'll have it beamed right away, sir."

"Do that. And let me have the reply immediately it arrives." Then, to the four of them, "Get out of my sight."

The signal shot straight to Motan without any juggling around.

Identify your code forthwith. Urgent.

Two days later the answer squirted back and got placed on Railton's desk pending his return from lunch. In due course he paraded along the corridor and into his office. His thoughts were actively occupied with the manpower crisis in the Sirian sector and nothing was further from his mind than the antics of Motan. Sitting at his desk, he glanced at the paper.

All it said was, "BF."

He went straight up and came down hard.

"Ashmore!" he roared, scrabbling around. "Pennington! Saunders! Whittaker!"

Ex Terra Space Control. Direct Beam, Straight. To Motan. Commander Hunter recalled forthwith. Captain Maxwell succeeds with rank of commander as from date of receipt.

Putting on a broad grin of satisfaction, Hunter reached for the phone. "Send Maxwell here at once." When the other arrived, he announced, "A direct-beam recall has just come in. I'm going home."

"Oh," said Maxwell without enthusiasm. He looked more disillusioned than ever.

"I'm going back to H.Q. You know what that means."

"Yes," agreed Maxwell, a mite enviously. "A nice, soft job, better conditions, high pay, quicker promotion."

"Dead right. It is only proper that virtue should be rewarded." He eyed the other, holding back the rest of

the news. "Well, aren't you happy about it?"

"No," said Maxwell, flatly.

"Why not?"

"I've become hardened to you. Now I'll have to start all over again and adjust myself to some other and different nut."

"No you won't, chum. *You're* taking charge." He poked the signal form across the desk. "Congratulations, Commander!"

"Thanks," said Maxwell. "For nothing. Now I'll have to handle your grief. Ostriches. Forty-two of them."

At midnight Hunter stepped aboard the destroyer D10 and waved good-by. He did it with all the gratified assurance of one who's going to get what's coming to him. The prospect lay many weeks away but was worth waiting for.

The ship snored into the night until its flame trail faded out leftward of Motan's fourth moon. High above the opposite horizon glowed the Zeng's two planets of Korima and Koroma, one blue, the other green. Maxwell eyed the shining firmament, felt the weight of new responsibility pressing hard upon his shoulders.

He spent the next fortnight checking back on his predecessor's correspondence, familiarizing himself with all the various problems of planetary governorship. At the end of that time he was still baffled and bothered.

"Tyler!" Then when the other came in, "For heaven's sake, man,

can't you stop perpetually snuffling? Send this message out at once."

Taking it, Tyler asked, "Tight or straight beam, sir?"

"Don't send it direct beam. It had better go by tight. The subject is tagged top secret by H.Q. and we've got to accept their definition."

"Very well, sir." Giving an unusually loud sniff, Tyler departed and squirted the query to the first repeater station.

Why are we getting ostriches?

It never reached Railton or any other brass hat. It fell into the hands of a new Terran operator who'd become the victim of three successive technical gags. He had no intention whatsoever of being made a chump a fourth time. So he read it with eyebrows wagging.

When are we getting ostriches?

With no hesitation he destroyed the signal and smacked back at the smarty on Motan.

Will emus do?

In due course Maxwell got it, read it twice, walked widdershins with it and found himself right back where he'd started.

Will amuse you.

For the thirtieth time in four months Maxwell went to meet a ship at the spaceport. So far there had arrived not a goad hook, not a feather, not even a caged parrot.

It was a distasteful task because every time he asked a captain whether he'd brought the ostriches he got a look that pronounced him definitely teched in the haid.

Anyway, this one was not a tramp boat. He recognized its type even before it sat down and cut power—a four-man Zeng scout. He also recognized the first Zeng to scramble down the ladder. It was Tormin, the chief military officer on Koroma.

"Ah, Mr. Maxwell," said Tormin, his yellow eyes worried. "I wish to see the commander at once."

"Hunter's gone home. I'm the commander now. What's your trouble?"

"Plenty," Tormin informed. "As you know, we placed ordinary settlers on Korima. But on the sister planet of Koroma we placed settlers and a large number of criminals. The criminals have broken out and seized arms. Civil war is raging on Koroma. We need help."

"Sorry, but I can't give it," said Maxwell. "We have strict orders that in no circumstances whatever may we interfere in Zeng affairs."

"I know, I know." Tormin gestured excitedly with long, skinny arms. "We do not ask for your ships and guns. We are only too willing to do our own dirty work. Besides, the matter is serious but not urgent. Even if the criminals conquer the planet they cannot escape from it. We have removed all ships to Korima."

"Then what do you want me to do?"

"Send a call for help. We can't do it—our beam station is only half built."

"I am not permitted to make di-

rect contact with the Zeng authorities," said Maxwell.

"You can tell your own H.Q. on Terra. They'll inform our ambassador there. He'll inform our nearest forces."

"That'll mean some delay."

"Right now there's no other way," urged Tormin. "Will you please oblige us? In the same circumstances we'd do as much for you."

"All right," agreed Maxwell, unable to resist this appeal. "The responsibility for getting action will rest with H.Q., anyway." Bolting to his office, he gave Tyler the message, adding, "Better send it tight-beam, just in case some Zeng stickler for regulations picks it up and accuses us of poking our noses in."

Out it went, to and fro, up and down, in one tone or another, this accent or that.

Civil war is taking place among local Zengs. They are asking for assistance.

It got there a few minutes behind Hunter, who walked into Railton's office, reached the desk, came smartly to attention.

"Commander Hunter, sir, reporting from Motan."

"About time, too," snapped Railton, obviously in no mood to give with a couple of medals. "As commander of Motan you accepted full responsibility for the text of all messages beamed therefrom, did you not?"

"Yes, sir," agreed Hunter, sensing a queer coldness in his back hairs.

Jerking open a drawer, Railton extracted a bunch of signal forms, irrefully slapped them on the desk.

"This," he informed, mustaches quivering, "is the appalling twaddle with which I have been afflicted by you since Motan's station came into operation. I can find only one explanation for all this incoherent rubbish about ostriches and mutton, that being that you're overdue for mental treatment. After all, it is not unknown for men on alien planets to go off the rails."

"Permit me to say, sir—" began Hunter.

"I don't permit you," shouted Railton. "Wait until I have finished. And don't flare your nostrils at me. I have replaced you with Maxwell. The proof of your imbecility will be the nature of the next signals from Motan."

"But, sir—"

"Shut up! I will let you see Maxwell's messages and compare them with your own irrational nonsense. If that doesn't convince—"

He ceased his tirade as Ashmore appeared and dumped a signal form on his desk.

"Urgent message from Motan, sir."

Railton snatched it up and read it while Ashmore watched and Hunter fidgeted uneasily.

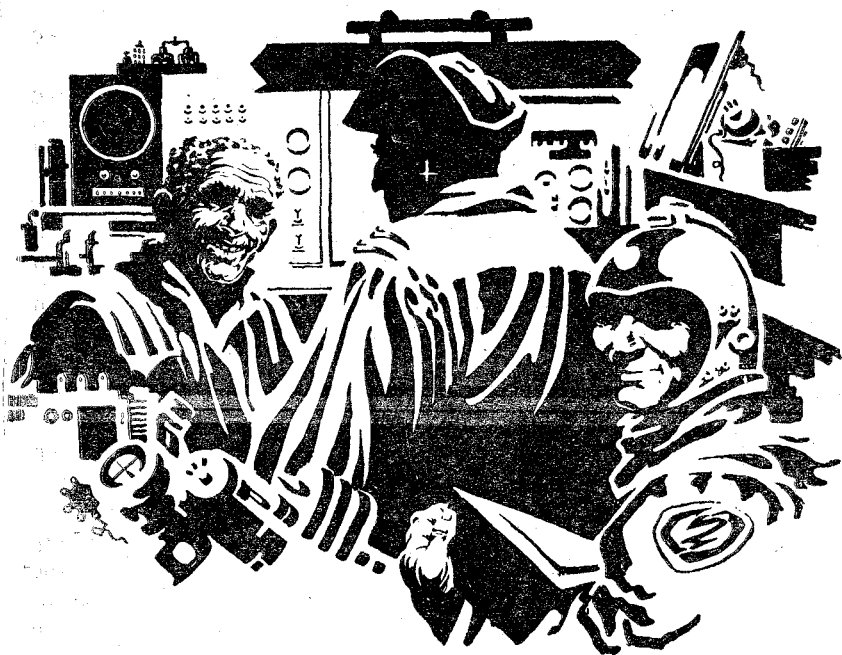
Sibyl Ward is making faces among local Zengs. They are asking for her sister.

The resulting explosion will remain a space legend for all time.

THE END

TOP SECRET

105



MIDDLEMAN

Some things go on, through the years, stable despite changing governments, philosophies, and isms. Perhaps such people, rather than kings, should claim "I Maintain."

BY JOHN A. SENTRY

Illustrated by Freas

Old Sam tapped the wiring diagram with his finger. "You see that?"

The young man in the uniform bent closer and nodded. "Uh-huh."

"Well, that's a silly way of doin' that job."

"How come?" the soldier asked. The diagram was one he'd drawn himself, and it was for a portable communicator that had just been put into use in the Duke's army.

"Too much glassware," Old Sam snorted. "Breaks. Too much wiring. Hard to assemble. Cuts down on your production volume. Now,

ASTOUNDING SCIENCE FICTION

look— You see this thingummy over here?" He flipped a finger toward a cube of plastic lying on his bench. "Take it with you. Take one of these squawk boxes down and wire it in *here*—" His pencil wriggled over the diagram.

Outside, the Duke's army was filing through the streets, taking its wounded out in trucks, marching out the men who could march, and hoping to make it out to the spacefield in time to get off the planet before the invaders reached the town.

"... And that way you get away with somethin' half the size, twice as good, and twice as easy to produce. Go on—take some more of those, if you want. I've got plenty. The Duke'll maybe give you a bonus, or something."

Old Sam and the young military technician looked up as somebody blocked the doorway. He was an older, heavy-set man, wearing the insignia of a platoon commander in the Duke's army.

"Hello, Cornet Gravus," Old Sam said cheerfully. "Didn't expect to see you any more."

"Hello, Sam," the cornet answered. "I dropped by to pick up young Millur. Lord knows, if somebody didn't, he'd still be here when the Gannies are knocking on the front door." He looked over at the technician. "Go on, Millur. Get out of here. Drop into line anywhere—everything's all mixed up anyhow." He got an old look around his eyes

when he said that, and his voice grew tired.

"Yes, sir. I just stopped by to see Old Sam for a minute." The technician gathered up his transistors and stuffed them into his pockets.

"Just some unfinished shop-talk, Cornet," Old Sam explained. "Well, so long, young fellow. Good luck."

"So long, Sam," the technician said with a shy grin. "Thanks." Then he slipped out of the shop and fell in with a formation marching by.

Gravus looked around the shop and shook his head. "I don't understand it," he said, pacing nervously. "The Mayor left town four days ago. The Duke's governor packed all the stuff he could carry out of his mansion, and *he's* gone. The farmers are hiding their livestock and seed grain, and sending their daughters off into the woods. The moneylender's buried his gold, and the innkeeper's bricked up his wine vaults. They can't get away, so they're staying where they are and moaning and praying. Of course, if they live through the first few days, they'll be more or less all right. Though heaven knows what kind of restrictions and oppressions the Gannies'll clamp on 'em. But you . . . you're not even worried! Look at this—" He waved at the workbench. "Parts and pieces all ready to be put together, a hot soldering iron, and a couple of finished jobs you'll never deliver to the Mayor or the Governor now, but business as usual, anyhow. I *know* you're no advance agent.

We checked you. You've been living in this town all your life, and your father and grandfather before you. What *is* it, Sam? *Why* aren't you worried?"

Sam shrugged. He sat down and pushed a stool out from under the bench for Gravus. "Have a seat, Cornet. You've got time—and I guess you've had a busy morning." He waited until Gravus had settled down. "I don't guess there's any chance of you ever coming back?"

Gravus shook his head. "Naah!" he said in a final-sounding voice. Then he quickly said: "Not for some time, anyhow," but Sam smiled at him in a quiet way, and the cornet shrugged.

"Cornet, you see that TV set over in the corner? The one with the dust on it?"

Gravus looked over. "Yeh. Old baby, isn't it?"

Sam nodded. "My grandfather fixed it for the Autocrat of Sirdenfal. Remember him from your histories? Brilliant, progressive man—believed in the equality of all Mankind. After they died, that is. Meanwhile, it was the job of the common people to do everything they could to make the ruling class happy, because ruling a bunch of intractable slaves was hard work and needed relaxation."

"That was the one who let the farmers starve because he'd gotten a good offer from some other planet for seed grains, so he had his tax collectors gather up every kernel?"

"That's right. Half a million

people died in one winter. My grandfather was just about to deliver that job when the Stellar Triumvirate moved in." Sam pointed quietly to an interstellar communicator sitting beside the TV set. "That's the last job my grandfather worked on. It's not finished. That one was for the Grand Triumvir after he got rid of the other two. Remember him? That was the fellow that was all for the farmers. Treated them fine. Backbone of Humanity, he called 'em. Had no use for anybody else. He had the moneylenders and the innkeepers working in the fields. Taxed the townspeople into poverty. Hung a lot of them. Reorganized the whole economy."

Gravus nodded, looking a little puzzled. "How'd your grandfather ever manage to keep this shop?"

Sam shook his head. "They didn't tax him. Not very hard. He got paid in Labor Checks 'stead of money, but he made out. Did pretty well, as a matter of fact. Had a lot of jobs from the Triumvir's officials. Never did finish that communicator, though—that was about the time the First Empire moved in. Well, by this time he was a pretty old man. Caught pneumonia and died in bed. My father, Jim, he took over the shop. You see that?" Sam pointed.

Gravus looked over at a complicated TV-Phono-Radio console. "Who was that for?"

"Local governor. It's got all kinds of doohickeys on it—remote controls, automatic record selection,

synchronized film in three dimensions and color, to go with the music." Sam chuckled. "You ought to see some of those films."

"That was another slave society, wasn't it? A really bad one, the way I remember it," Gravus asked.

"Uh-huh. Had an arena outside of town, things like that. The administration was all imported, too. Treated all the natives like cattle. Nobody born on this planet had a dime, or anything else, he couldn't get taken away in the bat of an eyelash."

"But your father kept this shop."

"Nope. Closed it up. Went to live in the governor's mansion. Set up a workshop in one wing."

Gravus looked through the window at the retreating soldiers marching by. "He came back here after the Empire crumbled, huh?"

"That's right. There was a local government for a while. They were kind of unhappy about his working for the governor, for a while, but that didn't last long. After all, he hadn't had any choice. That mess of wiring over there—see it? That's part of a telephone system he was putting into the City Hall when the Duke came in."

Gravus was scowling, looking at the men pulling out. "All right," he growled, "I get the point. Your family's got some kind of secret. Maybe some cat blood. Always lands on its feet. I remember when your father died, a couple of years ago.

The Duke's governor was fit to be tied."

Sam nodded. "He had one of his ladies' personal radios here. But I finished the job." He sat back. "Sure, we've got a secret. Been in the family for so far back, I guess it goes all the way back to old Earth. Maybe further. Look—if there's one thing that's permanent, it's change. Nobody knows how many kinds of governments people have had. Nobody knows how many political theories have gotten their try-out by being tried out on people whether they liked it or not. If you tried to count the people who've gotten killed because they didn't fit the system, you'd wind up with a figure maybe a thousand times as big as the number of people living in the galaxy today."

"All right," Gravus growled, "what about it?"

Sam picked up his soldering iron and switched it off for the time being. "How are you on political history?"

Gravus moved one shoulder. "Middling."

"Me, too. Maybe less. But the way I get it, there hasn't been a class of people that didn't get it in the neck one time or another. The farmers get it most of the time. The innkeepers and the moneylenders get it some of the time. The preachers get it one way or another as a practically permanent thing. And the people on top get it bad whenever everything turns over, because they wind up on the bottom. Society

keeps turning over and over, and the chances of not getting rattled around while it's happening are mighty low. But there's one guy who gets it so seldom that you might as well say he doesn't get it—he's got the best chance of anybody. There's one guy who's been around in every society people ever had. Not rich, you understand. Not always doing the same thing—but doing the same *kind* of thing. Sometimes not respected very much—except by the people whose disrespect matters. This guy was around in Mesopotamia, Egypt, Greece, Rome, England, America, Russia, Germany, Mars—you name the place, and there he was. You figure a Roman slave wouldn't have much in common with a French peasant. You know about Feudalism? All right—take my word for it—a Feudal lord couldn't make head or tail of a Roman aristocrat, and vice versa."

"Look, Sam, I've got to get going. That's the last of them, going by now."

"O.K., Cornet. I know. Say . . . you're an artillerist, aren't you?"

"When there's artillery, I am."

"Cheer up, Cornet. You'll have some more pretty soon. Can't help it. Armies *need* artillery. Anyway—there's one kind of Roman who can talk to one kind of guy living under a feudal system."

"Who?"

Sam shook his head. "That's the secret. You've got to be the one kind of guy no society can do without."

Gravus looked puzzled. "Look," he said nervously, "I've got to get out of here."

"I know." Sam got up as Gravus jumped up to his feet. "Well, so long, Cornet. It's been nice knowing you. Keep your head down, watch where you stand, and you'll be all right. You've got a sort of first-cousin kinship to me and my kind. But you've got occupational hazards. Still, it's not as bad as being a footslogger. They get killed. Or a general. They get executed."

He stuck out his hand, and the cornet shook it without really knowing what Old Sam meant. Then he walked quickly out of the shop and hopped aboard a weapons carrier that was bringing up the tail of the retreat.

Sam watched him out of sight, and then he went back into the shop and did some more work on a radio he was fixing for his friend the garage mechanic. When he finished it, he walked down to the garage and delivered it, and talked a little while. The mechanic was just a young fellow—he'd taken over from his father a couple of years earlier. Afterward, Sam strolled around to his friend, the watchmaker's, and the watchmaker's wife made tea. Coming back up the street, he waved to his friend, the plumber, and his friend, the oil burner mechanic. He passed the bakery, and he shook his head. Bakers used to have the secret, too, but they hadn't been able to hold their end up against the chem-

ists, with their synthetics. And finally he went back to his shop.

The next morning, his door was opened, and he looked up. A thin, arrogant-looking man in a dark green uniform was standing in the doorway. There was a young enlisted man with him, carrying a metal box in his arms.

"Greetings!" the officer said. "I'm Subaltern Hovard Smit, representing the forces of the Emperor of Vega! You are the electronician in this town?"

"That's right, Subaltern," Sam answered. He stood up. "What can I do for you?" He looked over the subaltern's shoulder and saw the enlisted man looking around the shop and nodding to himself with approval. The enlisted man had a stylized lightning bolt worked into his shoulder patch. Sam grinned at the enlisted man, and the enlisted man sort of grinned back, because he and Sam had a lot in common.

"This shop is officially declared an auxiliary installation of the Empire, pending the arrival of our own maintenance echelons! You will co-

operate with our field technicians to your utmost extent! Trooper Hansun will observe your work! The penalty for disobedience to the new order is death! You understand?"

Sam nodded. "Yes, Subaltern. But don't worry about my work. I do a pretty good job."

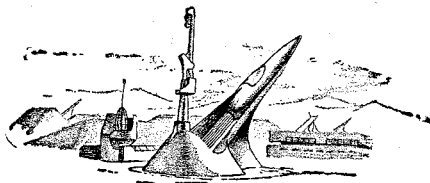
The subaltern nodded. "Probably! We've had considerable experience with you native craftsmen! If you co-operate, you will be treated accordingly!"

"Yes, Subaltern."

"Meanwhile," the subaltern said in a lower voice, "something seems to be wrong with my radio. It is not standard Army issue, and our own technicians cannot puzzle it out. See what you can do. And . . . by the by . . . where might I find a good watchmaker? This cursed chronometer simply won't keep the right time!"

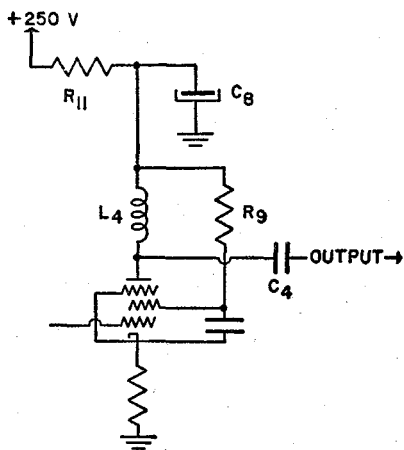
So Sam told him where he could find his friend, the watchmaker, and after the subaltern had left, Sam and Trooper Hansun sat around talking shop while Sam fixed the subaltern's radio.

THE END



CORRECTION AND FURTHER DATA ON THE HIERONYMOUS MACHINE

My apologies; ye Ed slipped up on checking the circuit diagram of the Hieronymous machine, Campbell version, published in the June issue. The condenser labeled C8, as shown, would block the DC plate supply from the plate of the third amplifier stage. The correct circuit has the condenser C8 acting as a filter condenser to ground:



In order to get Mr. Hieronymous' permission to discuss the construction of his patented machine, it was necessary for me to telephone him; the final paragraph of the article in the June issue resulted from that conversation.

Mr. Hieronymous gave further directions and suggestions—as I mentioned, he alone, at this point in history, can properly be said to be "skilled in the art," so that data was not available at the time I constructed the machine from patent specifications alone.

He states that the 6AU6 tube, for reason or reasons unknown, is not as effective as the 6SJ7 or the 9003. (The latter, however, lists for some four times the price of the 6SJ7.)

The resolving power of the prism system is, quite logically, a function of the geometry of the system. I used $\frac{1}{8}$ th inch thick copper electrodes; Hieronymous says he has used "0.0005" wires. The slit in the "opaque insulating material" should,

similarly, be made narrow to act as an efficient collimator.

The "eloptic radiation" is neither electricity nor optical radiation, of course; Hieronymous reports that not only will metallic conductors carry it, but light can also act as a conductor. Consequence: if wires transmitting eloptic energy are strongly illuminated, they act as though immersed in a conducting liquid.

(Hm-m-m . . . mystics have kept saying they couldn't operate in the presence of light. Maybe there's a connection?)

The following data derives from personal experimentation with this delightfully maddening and illogical contraption.

As reported in the June issue, I have observed that it operates. That it does something. Not all people get results. It's an annoying fact that my own experiments indicate the following statistical distribution of success:

1. Highest probability of success: girls of high-school age and younger.
2. Boys of the same age group.
3. Young women.
4. Young men—with the following conditions:
 - A. Low probability if they are rigidly sure they know-for-sure what "makes sense" and what doesn't.
 - B. Lower probability if they

are technically trained, and know-for-sure what can and cannot happen. The desire and willingness to "have an open mind" is not equivalent to *having* an open mind, however sincere the desire.

In support of that last contention; it works only unreliably for me, although it works with high reliability for my daughters, and several of my friends. The resultant frustration must be experienced to be appreciated. It's as bad as authoring stories; it works when I'm in the mood, but darned if I know how to get in the mood when I want to! I can write when I'm in the mood, but I took to editing because I couldn't reliably control the mood, and lack of adequate sustenance turned out to prevent establishment of the mood.

However, with the aid of more talented friends—and friends of my daughters—I've been able to establish the following remarkably illogical facts as facts:

1. The device works well, repeatedly, and predictably for many individuals—but it works just as well when it is *not* plugged into the power supply as when it is.
2. The device will not operate if one of the tubes is burned out, shorted, or defective, whether it is plugged in to the power supply or not.

Why a defect in a tube that isn't operating anyway should make a difference I do not yet feel called on to explain. I'm merely gathering data, at this point.

Of course, if this is a psionic machine, we haven't the slightest reason to expect it to follow the laws and patterns that we expect of a purely physical machine. Certainly a mechanic would insist that the powdery gray allotropic form of metallic tin was not the same material as block tin, though a chemist would

insist that they were exactly the same material.

I've seen some other psionic machines since writing the piece. They produce effects. But viewed from the frame of reference of my schooling and orientation as a physicist, I would be forced to insist that only an addict of modern music could appreciate them.

They're crazy, man, crazy!

THE EDITOR.

THE END

"INFINITE" ISN'T "ALL"

Cantor's mathematics of transfinite remains poorly developed—and spectacularly poorly applied, even in science. The essential concept that needs application is that leading to a realization that "infinite" is not equivalent to "all." There are an infinite number of problems that can be solved within the field of chemistry, for example—yet not *all* problems can be solved chemically.

The failure to recognize the distinction between "infinite potential expansion of understanding" and "all" leads to a tendency to hold that *all* problems that are real can be solved by simple extension of the now-known laws of science.

The assumption is not only false, but logically wrong. It's equivalent to holding that since there are an infinite number of points inside a sphere, all possible points lie within the sphere.



THE FAR LOOK

*It's most exceedingly difficult to find
the cause of a strange phenomenon
... when you look in the wrong place!*

BY THEODORE L. THOMAS

Illustrated by Freas

*So, like things of stone in a valley
lone,
Quiet we sat and dumb:
But each man's heart beat thick and
quick,
Like a madman on a drum.*

OSCAR WILDE
Ballad of Reading Gaol

The ship appeared first as a dot low on the horizon. The television cameras immediately picked it up. At first the ship did not give the impression of motion; it seemed to hover motionless and swell in size. Then in a few seconds it passed the first television station, the screaming

roar of its passage rocking the camera slightly.

Thirty miles beyond, its belly skids touched the packed New Mexican sand. An immense dust cloud stirred into life at the rear of the ship and spread slowly across the desert.

As soon as the ship touched, the three helicopters took off to meet it. The helicopters were ten miles away when the ship halted and lay motionless. The dust began to dissipate rearward. The late afternoon sun distorted the flowing lines of the ship and made it look like some outlandish beast of prey crouched on the desert.

As the lead helicopter drew within a mile of the ship, its television camera caught the ship clearly for the first time. Telephoto lenses brought it in close, and viewers once again watched closely. They could see the pilot's head as he checked over his equipment. They looked admiringly at the stubby swept-back wings and at the gaping opening at the rear from which poured the fires of hell itself. But most of all they looked to the area amidship where the door was.

And as they watched, the door swung open. The sun slanted in and showed two figures standing there. The figures moved to a point just inside the door and stopped. They stood there looking out, motionless, for what seemed an interminable period. Then the two figures looked at each other, nodded, and jumped out the door.

Though the sand was only four feet below the sill of the door, both men fell to their knees. They quickly arose, knocked the dust from their clothes, and started walking to where the helicopters were waiting. And all over the country people watched that now-familiar moon walk—the rocking of the body from side to side to get too-heavy feet off the ground, the relaxed muscles on the down step where the foot just seemed to plop against the ground.

But the cameras did not focus on the general appearance or action of the men. The zoom lenses went to work and a close-up of the faces of the two men side by side flashed across the country.

The faces even at first glance seemed different. And as the cameras lingered, it became apparent that there was something quite extraordinary there. These were men, but the eyes were different. There was an expression not found in human eyes. It was a level-eyed expression, undeviating. It was a penetrating, probing expression, yet one laden with compassion. There was a look in those eyes of things seen from deep inside, of things seen beyond the range of normal vision. It was a far look, a compelling look, a powerful look set in the eyes of normal men. And even when those eyes were closed, there was something different. A network of tiny creases laced out from both corners of each eye. The crinkled appearance of the eyes made each man appear older

than he was, older and strangely wizened.

The cameras stayed on the men's faces as they awkwardly walked toward the helicopters. Even though several dignitaries hurried forward to greet the men, the camera remained on the faces, transmitting that strange look for all to see. A nation crammed forward to watch.

In Macon, Georgia, Mary Sinderman touched a wetted finger to the bottom of the iron. She heard it pop as she stared across her ironing board at the television screen with the faces of two men on it.

"Charlie. Oh, Charlie," she called. "Here they are."

A dark squat man in an undershirt came into the room and looked at the picture. "Yeah," he grunted. "They got it all right. Both of 'em."

"Aren't they handsome?" she said.

He threw a black look at her and said, "No, they ain't." And he went out the door he had come in.

In Stanford, Connecticut, Walter Dwyer lowered his newspaper and peered over the top of it at the faces of two men on the television screen. "Look at that, honey," he said.

His wife looked up from her section of the paper and nodded silently. He said, "Two more, dear. If this keeps up, we'll all be able to retire and let them run things." She chuckled, and nodded and continued to watch the screen.

In Boise, Idaho, the Tankard Saloon was doing a moderate business. The television set was on up over one end of the bar. The faces of

two men flashed on the screen. Slowly a silence fell over the saloon as one person after another stopped what he was doing to watch. One man sitting in close under the screen raised his drink high in tribute to the two faces on the screen. And every man in the place followed suit.

In a long low building on the New Mexican flats, the wall TV set was on. A thin, earnest-faced young man wearing heavy glasses sat stiffly erect on a folding chair in front of the screen watching the two faces. He glanced briefly aside with a faint air of disapproval at the pipe being contentedly puffed on by an older man who stood near. He turned back to the screen and his disapproval vanished. "Dr. Scott," he said, "they both have the look."

The older man nodded wordlessly. They watched the awkwardness of the two men, apparent even from a view confined to their faces.

The young man said, "How long will it be before they arrive here, doctor?"

"About half to three-quarters of an hour. They've got to get the red plush carpet laid out for them first."

"Dr. Scott, do you think you'll be able to find out anything this time?"

A slight urge to tell this young man to keep his big fat mouth shut rose up in Dr. Scott. He noted the urge and catalogued it neatly in the niche filled with the urges of older, experienced men toward young naïve

men who believe everything they learned at college, and no more.

But Dr. Scott answered gently, "I don't know, Dr. Webb, I don't know. We've examined sixteen of these fellows without finding out anything. I don't know why we should now."

"Have you no theories to explain it?"

"No. I have no theories. Once I had theories, but I haven't any any more." And Scott brought out a match, struck it, and began ejecting great sheets of flame and smoke from his pipe.

Webb quietly watched the scene on the screen. He saw the two men shake hands with an impressive assortment of generals, defense officials, air officials, space officials, and the assorted lot that clusters around such dignitaries.

Webb said, "Have you isolated all the factors resulting from your choice of men?"

Scott pulled reflectively on his pipe a time or two, and said, "As far as we've been able, yes."

"And you found nothing, even though you've been highly selective in picking the men?"

Again the reflective puffs of smoke; then, "Well, I'm not sure I know what you mean when you say 'highly selective.' We look for a combination of qualities, not any one or two or three qualities." More smoke. "Suppose you had to choose a man who was a good electrical engineer and who was also a good mule skinner. You'd find that the

best man you could get would not be the best electrical engineer, nor would he be the best mule skinner. Well, that's our problem, only ten times worse. We look for men with the combination of technological and psychological qualities that we know best equips the men for survival on the moon. But as soon as you try to isolate any one of the various qualities, you'll find there are thousands of other men that outshine ours in that particular quality. It's the combination that counts."

Webb hadn't taken his eyes off the handshaking and speechmaking on the screen, but he had been listening to Scott.

Webb said, "Well, isn't it the combination that does it then? The good all-around men?"

"It might be," said Scott, "except for one thing. When we started this project we didn't know as much as we know now. The first ten men were not selected the way we select them now, yet the same ratio of them developed the far look. Two of them died on the Moon, and that helped teach us how to better select the ones that can survive. The point is that our selection system affects survival but doesn't seem to affect the far look."

Webb nodded. He watched the two men board a helicopter and saw it take off. The screen faded to a blare of martial music and then came to life on a toothy announcer praising the virtues of a hair shampoo. Webb snapped the set off, turned to Scott, and said, "Don't all

these men go through some experience in common?"

Scott pulled hard at his pipe, but it was out. He reached in a side pocket and pulled out a match the size of a small pine tree. He struck it under the table, held it poised over the bowl, and said, "They go through a great many experiences in common. They go through two years of intensive training. They make a flight through space and land on the Moon. They spend twenty-eight days of hell reading instruments, making surveys, and collecting samples. They suffer loneliness such as no human being has ever known before. Their lives are in constant peril. Each pair has had at least one disaster during their stay. Then they get their replacements and come back to Earth. Yes, they have something in common all right. But a few come back without the far look. They've improved; they're better than most men here on Earth. But they are not on a par with the rest of these returning prodigies with crinkles around their eyes. Talk about *Homo superior*. We're making about two of them a month, and we haven't the foggiest idea of how we're doing it. *Ouch*." And he flung the burnt-out pine tree into an ash tray.

Webb looked at him quizzically and then glanced at his watch. "Ten minutes," he said, "they'll be here in ten minutes." He walked to the window and looked out, listening to the hissing and bubbling of Scott's pipe going through the throes of

being relighted. Webb said, "I suppose these two will become just as successful as the others. They've got 'the far look,' as you and the newspapers call it."

"Yes, they've got it. And they'll be as good as the others, too. I don't know whether they'll go into business or politics or science or art; but whatever it is, you can bet they'll be better at it than anybody else has ever been."

Webb continued to look out the window for a while, trying to fit this latest information into his general background of knowledge. It would not fit. He shook his head and turned from the window and said, "We are missing something. Somewhere there is an element we are unaware of. These men must know what it is. They are keeping it from us, knowingly or unknowingly. All we have to do is dig out that missing element and I venture to say we will have the answer. It's as simple as that."

Scott looked at him. He puffed gently a time or two to slow the welling up of anger. He took the pipe from his mouth and said softly, "These men are concealing nothing, as far as our best efforts can show. We've pumped them full of half a dozen truth drugs. We've doped them and subjected them to hypnosis. On top of that they have all been completely frank and open with us. Maybe they're concealing something but I doubt it very much." And he put the pipe back

in his mouth and clamped down on it hard.

Webb shook his head again. "I don't know. There's something missing here. I certainly mean to put these subjects through exhaustive tests. I'll dig something out of them."

The anger in Scott brought a flush to his face. He cupped the pipe bowl and studied the gray ashes while he considered whether a wrathful response would merely be a venting of his own anger or a real help to Webb. He decided that Webb might profit with a little cushioning against the shock he was due to receive in a very few minutes now. Scott pointed the stem of the pipe at Webb as he crossed the room toward him. He stopped in front of Webb and touched him on the lapel of the coat with the bit as he said, "Look here, young fella, these 'subjects' as you call them are like no subjects you ever had or conceived of. These men can twist you and me up into knots if they want to. They understand more about people than the entire profession of psychiatrics will learn in the next hundred years. These men are intellectual giants with a personality that can curl you up on the floor."

He put the pipe in his mouth and said, more gently, "You are in for a shock, Dr. Webb. I'm telling you this so you won't be quite as crushed when you meet these men. You've read about them, studied their histories, I know, but no mere description does justice to the force

of their personalities. These two particular men are fresh from the Moon and do not yet fully realize the immense impact they have on people. Now you'd best get yourself ready for quite an experience. You'll need all your strength to preserve an ounce of objectivity."

The murmur of approaching motors broke into the ensuing silence. Webb did not hear them at first; he stared at Scott, mouth slightly open. The murmur grew to a roar as the helicopters landed outside the building. Webb turned to look out the window again, but the men dismounted on the far side of the plane and disappeared through a door in the building. In a moment footsteps sounded outside in the hall and the door crashed open.

Webb turned to see the two men with crinkles surrounding their eyes walk into the room. The taller of the two looked at Webb and Webb felt as if struck by a hot blast of wind. The level eyes were brilliant blue and seemed to reach into Webb and gently strum on the fibers of his nervous system. A sense of elation swept through him. He felt as he had once felt standing alone at dusk in a wind-tossed forest. He could not speak. His breath stopped. His muscles held rigid. And then the blue-eyed glance passed him and left him confused and restless and disappointed.

He dimly saw Scott cross the room and shake hands with the shorter man. Scott said, "How do you do. We are very glad for your

safe return. Was everything in order when you left the Moon?"

The shorter man smiled as he shook Scott's hand. "Thank you, doctor. Yes, everything was in order. Our two replacements are off to a good start." He glanced at the taller man. They looked at each other, and smiled.

"Yes," said the taller man, "they are off to a good start. Fowler and McIntosh will do all right."

Don Fowler and Al McIntosh still had the shakes. After six days they still had the shakes whenever they remembered the first few moments of their landing on the Moon.

The ship had let down roughly. Fowler awkwardly climbed out through the lock first. He turned to make sure McIntosh was following him and then started to move around the ship to look for the two men they were to replace.

The ship lay near a crevice. A series of ripples in the rock marred the black shiny basalt surface that surrounded the crevice. The surface was washed clean of dust by the jets of the descending ship. As Fowler walked around the base of the ship his foot stepped into the trough of one of the ripples in the rock. It threw him off balance, tilted him toward the crevice. He struggled to right himself. Under Earth gravity he would simply have fallen, but under Lunar gravity he managed to retain his feet. But he staggered toward the crevice, stumbling in the ripples, unable to recover himself

in the unaccustomed gravity. McIntosh grabbed for him. But with arms flailing, body twisting, feet groping, he disappeared down the crevice as if drawn into the maw of some hungry beast. McIntosh staggered behind him. His own feet skidded on the ripples in the hard, slick basalt. He, too, bobbed his way to the lip of the crevice and toppled in.

Thirty feet down the crevice narrowed to a point where the men could fall no farther. Both found themselves pinned firmly in place. Fowler was head down and four feet to McIntosh's left. They were unhurt but they began to worry when a few struggles showed them how firmly the slick rock gripped their spacesuits. The pilot of the spaceship, sealed in his tiny compartment, could not help them. The two men they were to replace might be miles away. The radios were useless for anything but line-of-sight work. So they hung there, waiting for something to happen.

Although they were completely helpless and hadn't the slightest idea of how to get out of their predicament, their training on Earth asserted itself. Fowler spoke first.

"Say, Mac. Did you get a chance to see what the Moon looks like before you joined me down here?"

"No. I had sort of hoped you'd noticed. Now we don't have a thing to talk about."

Silence, then,

"This is one for the books," said Fowler. "We spend ten seconds on



the surface of the Moon and an undetermined period of time some odd feet beneath it. Can you see anything? All I can see is the bottom of this thing and all I can tell you about it is that it's black down there."

"No. I can't tilt my head back far enough to see out. I have a nice view of the wall, though. Dense, igneous, probably of basic plagioclase. Make a note of that, will you?"

"Can you reach me?"

"No. I can't even see you. Can you—"

"What are you fellows doing down there?" A new voice broke into the conversation. Neither Fowler nor McIntosh could think of an answer. "Stay right there," the voice continued, with something that sounded suspiciously like a chuckle in it. "We'll be down to get you out."

Both of the pinned men could hear a rock-scraping sound through their suits. Two pairs of hands rocked each man free of the walls and lifted him up to where he could bridge the crevice with knees and back. McIntosh was the first to be freed and he watched with close interest the easy freedom of movement of the two spacesuited figures as they released Fowler, turned him right side up, and lifted him up to where he could support himself in the crevice. All four then worked their way up the slick walls by sliding their backs up one wall while

bracing their feet against the opposite wall.

It took Fowler and McIntosh appreciably longer to climb to the surface than the other two. There had been no words spoken in the crevice and there was little to say now. Fowler and McIntosh each solemnly shook hands with the other two. The clunk of the metallic-faced palms of the spacesuit and the gritty sound of the finger, wrist, and elbow joints made hand-shaking a noisy business in a spacesuit.

The two men led Fowler and McIntosh around to the other side of the spaceship and pointed westward across Mare Imbrium. One of them said, "About half a mile over there behind that rise you'll find the dome. About eight miles south of here you'll find the latest cargo rocket—came in two days ago. The terrain is pretty rough so you'd better wait a few days to get used to the gravity before you go after it. We left some hot tea for you at the dome. Watch yourselves now." And again there was their noisy business of shaking hands. Both Fowler and McIntosh tried to see the faces of the two men they were replacing, but they could not. It was daytime on the Moon and the faceplate filters were all in place. Their radio voices sounded the same as they had on Earth.

The two disappeared into the ship with a final wave of hand. Fowler and McIntosh turned and carefully and awkwardly moved westward away from the ship. A quarter of a

mile away they turned to watch it and for the first time the men had the chance to see the actual moon-scape.

Pictures are wonderful things and they are of great aid in conveying information. The two men were prepared for what they saw, yet they were deeply shocked. Words and pictures are often adequate to impart a complete understanding of a place or event. Yet where human emotions are intertwined with an experience mere words and pictures are inadequate.

And so Fowler and McIntosh reeled slightly as the garish barrenness of the moonscape impressed itself on their minds. It might well be that on Earth there existed similar wild wastelands, but they were limited, and human beings lived on the fringes, and human beings had crossed them, and human beings could stand out on them unprotected and feel the familiar heat of day and the cold of night. Here there was only death for the unarmored man, swift death like nothing on Earth. And nowhere were there human beings, nor any possibility of human beings. Only the darker and lighter places, no color, black sky, white spots for stars, and the moon-scape itself nothing but brilliant gray shades of tones between the white stars and the black sky.

So Fowler and McIntosh, knowing in advance what it would be like, still had to struggle to fight down an urge to scream at finding

themselves in a place where men did not exist. They stared out through the smoked filters, wide-eyed, panting, fine drops of perspiration beading their foreheads. Each could hear the harsh breath of the other in the earphones, and it helped a little to know they both felt the same.

A spot of fire caught their attention and they turned slightly to see. The spaceship stood ungainly and awkward with a network of pipe-work surrounding the base. The spot of fire turned into a column of fire and the ship trembled. The column produced a flat bed of fire on the surface of the Moon and the ship rose slowly. There was no dust. A small stream of fire reached out sideways as a balancing rocket sprang to life. The ship rose farther, faster now, and Fowler and McIntosh leaned back to watch it. Once it cleared the Moon's horizon it lost apparent motion; it seemed to hover merely, and to grow smaller. They watched it until the fire was indistinguishable with the stars, then they looked around again.

It was a little better this time, since they were prepared for an emotional response. But in another sense it was worse for they were truly alone now. The horror of utter aloneness again welled up inside them. And without knowing what they were doing they drew closer together until the spacesuits touched. The gentle thud registered in each consciousness and brought their attention in to themselves. They

pressed together for a moment while they fought to organize their thoughts.

And then McIntosh drew a long deep breath and shook his head violently. Fowler could feel the relief it brought. They moved apart and looked around.

McIntosh said, "Let's go get that tea they mentioned."

"Right," said Fowler. "I could use some. That's the dome there." And he pointed west.

They headed for it. They could see the dome in every detail; and as they approached, the details grew larger. It was almost impossible to judge distances on the Moon. Everything stood out with brilliant clarity no matter how far away. The only effect of distance was to cause a shrinking in size.

The dome was startling in its familiarity. It was the precise duplicate to the last bolt of the dome they had lived in and operated for months in the hi-vac chambers on Earth.

The air lock was built to accommodate two men in a pinch. They folded back the antennas that projected up from their packs and they crawled into the lock together; neither suggested going in one at a time. They waited while the pump filled the lock with air from the inside; then they pushed into the dome itself and stood up and looked around.

Automatically their eyes flickered from one gauge to another, checking to make sure everything was right

with the dome. They removed their helmets and checked more closely. Air pressure was a little high, eight pounds. Fowler reached out to throw the switch to bring it down when he remembered that a decision had been made just before they left Earth to carry the pressure a little higher than had been the practice in the past. A matter of sleeping comfort.

"How's the pottet?" asked McIntosh. His voice sounded different from the way it had on Earth.

Fowler noted the difference—a matter of the difference in air density—as he crossed the twenty-foot dome and squatted to look into a bin with a transparent side. The bin bore the label in raised letters, Potassium Tetraoxide.

On Earth, water is the first worry of those who travel to out-of-the-way places. Food is next, with comfort close behind depending on the climate. On the Moon, oxygen was first. The main source of oxygen was potassium tetraoxide, a wonderful compound that gave up oxygen when exposed to moisture and then combined with carbon dioxide and removed it from the atmosphere. And each man needed some one thousand pounds of the chemical to survive on the Moon for twenty-eight days. A cylinder, bulky and heavy, of liquid air mounted under the sled supplied the air make-up in the dome. And a tank of water, well insulated by means of a hollow shiny shell open to the Moon's at-

mosphere, gave them water and served in part as the agent to release oxygen from the pottet when needed.

The dome checked out and by common consent both men swung to the radio, hungry for the reassuring sound of another human voice. McIntosh tuned it and said into the mike, "Moon Station to Earth. Fowler and McIntosh checking in. Everything in order. Over."

About four seconds later the transmitter emitted what the two men waited to hear. "Pole Number One to Moon. Welcome to the network. How are you, boys? Everything shipshape? Over."

McIntosh glanced at Fowler and a vision of the crevice swam between them. McIntosh said, "Everything fine, Pole Number One. Dome in order. Men in good shape. All's well on the Moon. Over."

About three seconds' wait, then, "Good. We will now take up Schedule Charlie. Time, 0641. Next check-in, 0900. Out." McIntosh hung up the mike quickly, and hit the switches to save power.

The two men removed their spacesuits and sat down on a low bench and poured tea from the thermos.

McIntosh was a stocky man with blue eyes and sandy hair cut short. He was built like a rectangular block of granite, thick chest, thick waist, thick legs; even his fingers seemed square in cross section. His movements were deliberate and conveyed an air of relentlessness.

Fowler was slightly taller than McIntosh. His hair and eyes were black, his skin dark. He was lean and walked with a slight stoop. His waist seemed too small and his shoulders too wide. He moved in a flowing sinuous manner like a cat perpetually stalking its prey.

They sipped the hot liquid gratefully, inhaling the wet fragrance of it. They carried their cups to the edge of the dome and looked out the double layer of transparent resin that served as one of the windows. The filter was in place and they pushed against it and looked out.

"Dreary looking place, isn't it?" said Fowler.

McIntosh nodded and said, "Funny, you don't get the feel of the complete barrenness by looking at pictures."

"I noticed that, too."

They sipped their tea, holding it close under their noses when they weren't drinking, looking out at the moonscape, trying to grasp it, adjusting their minds to it, thinking of the days ahead, and sipping their tea.

They finished, and Fowler said, "Well, time to get to work. You all set?"

McIntosh nodded. They climbed into their spacesuits and passed through the lock, one at a time. They checked over the exterior of the dome and every piece of mechanism mounted on the sled. Fowler mounted an outside seat, cleared with McIntosh, and started the drive motor. The great sled, complete

with dome, parabolic mirror, spherical boilers, batteries, antennas, and a complex of other equipment rolled slowly forward on great, sponge-filled tires. McIntosh walked beside it. Fowler watched his odometer and when the sled had moved five hundred yards he brought it to a halt. He dismounted and the two of them continued the survey started months back by their predecessors.

They took samples, they read radiation levels, they ran the survey, they ate and slept, they took more samples. They kept to a rigid routine, for that was the way to make time pass, that was the way to preserve sanity.

The days passed. The two men grew accustomed to the low gravitation, so they recovered the cargo rocket. Yet they moved about with more than the usual caution for Moon men; their experience of the first few seconds on the Moon loomed forbiddingly on their minds. They had learned earlier than the others that an insignificant and trivial bit of negligence can cost a man his life.

So the days passed. And as time went by they became aware of another phenomenon of life on the Moon. On Earth, in an uncomfortable and dangerous situation, you become accustomed to the surroundings and can achieve a measure of relaxation. Not on the Moon. The dismal bright and less-bright grays, the oppressive barrenness of

the gray moonscape, the utter aloneness of two men in a gray wilderness, slowly took on the tone of a gray malevolence seeking an unguarded moment. And the longer they stayed the worse it became. So the men kept themselves busier than ever. They accomplished more and more work, driving themselves to exhaustion, sinking into restless sleep, and up to work some more. They made more frequent five-hundred-yard jumps; they expanded the survey; they sought frozen water or frozen air deep in crevices, but they found only frozen carbon dioxide. They kept a careful eye on the pottet, for hard-working men consume more oxygen, and the supply was limited. And every time they checked the remaining supply they remembered what had happened to Booker and Whitman.

A pipeline had frozen. Booker took a bucket of water and began to skirt the pottet bin. The bail of the bucket caught on the corner of the lid of the bin. Booker carelessly hoisted the bucket to free it. The lid pulled open and the canvas bucket struck a corner and emptied into the bin. Instantly the dome filled with oxygen and steam. The safety valves opened and bled off the steam and oxygen to the outside, where it froze and fell like snow and slowly evaporated. The bin ruptured from the heat and broke a line carrying hydraulic fluid. Twenty gallons of hydraulic fluid flooded the pottet, reacting with it, forming potassium salts with the silicone liquid, re-

leasing some oxygen, irretrievably locking up the rest.

Booker's backward leap caromed him off the ceiling and out of harm's way. After a horrified moment, the two men assessed the damage and calmly radioed Earth that they had a seven-Earth-day supply of oxygen left. Whereupon they stocked one spacesuit with a full supply of salvaged pottet and lay down on their bunks. For six Earth days they lay motionless; activity consumes oxygen. They lay calm; panic makes the heart beat faster and a racing blood stream consumes oxygen.

Two men lay motionless on the Moon. For four days slightly more than two thousand men on Earth struggled to get an off-schedule rocket to the Moon. The already fantastic requirements of fuel and equipment needed to put two men and supplies on the Moon every month had to be increased. The tempo of round-the-clock schedules stepped up to inhuman heights; there were two men lying motionless on the Moon.

It lacked but a few hours of the seven days when Booker and Whitman felt the shudder that told them a rocket had crash-landed nearby. They sat up and looked at each other, and it was apparent that Whitman had the most strength left. So Booker climbed into the spacesuit while Whitman lay down again. And Booker went out to the crashed rocket feeling strong from the fresh oxygen in the spacesuit. He scraped up pottet along with the silica dust

and carried it in a broken container back into the dome. Whitman was almost unconscious by the time Booker got back and put water into the pottet. The two men lived. And by the time their replacements arrived the dome was again in as perfect condition as it had been. Except there was a different type of cover on the pottet bin.

So Fowler and McIntosh worked endlessly, ranging far out from the dome on their survey. The tension built up in them, for the worst was yet to come. The long Lunar day was fast drawing to a close, and night was about to fall. The night was fourteen Earth-days long. A black night broken only by the faint harsh starlight, a night where the imagination does things that the eyes would not allow in daylight.

"Well, here it comes," said McIntosh on the twelfth Earth-day. He pointed west. Fowler climbed up on the hummock beside him and looked. He saw the bottom half of the sun mashed by a distant mountain range and a broad band of shadow reaching out toward them. The shadow stretched as far north and south as he could see.

"Yes," said Fowler. "It won't be long now. We'd better get back."

They jumped down from the hummock and started for the dome, samples forgotten. At first they walked, throwing glances back over their shoulder. The pace grew faster until they were traveling in the peculiar ground-consuming lope

of men in a hurry under light gravity.

They reached the dome and went in together. Inside they removed their helmets and McIntosh headed for the radio. Fowler dropped a hand on his shoulder and said, "Wait, Mac. We have half an hour before we're due to check in."

McIntosh picked up a cloth and wiped his wet forehead, running the cloth through his sandy hair. "Yes," he said. "You're right. If we check in too soon they'll worry. Let's make some tea."

They removed their suits and brewed two steaming cupsfull. They sat down and sipped the scalding fluid and slowly relaxed a little.

"You know," said Fowler, "it's right about now that I'm glad we have an independent water supply. Repurified stuff would begin to taste bad about now."

McIntosh nodded. "I noticed it a day or two ago. I think I'd have trouble if the water weren't fresh." And the two men fell silent thinking of Tilton and Beck.

Tilton and Beck had been the second pair of men on the Moon. Very little water was sent up in those days, only enough for make-up. Tiny stills and ion-exchange resins purified all body waste products and produced a pure clear water pre-eminently suitable for drinking. Tilton and Beck had lived on that water for weeks on Earth and they, along with dozens of others, had pronounced it as fit to drink as clean cool spring water.

Then they went to the Moon. Two Earth-days after night fell Beck thought the water tasted bad. Tilton did, too. They knew the water was sweet and clean, they knew it was their imagination that gave the water its taste, but they could not help it. They reached a point where the water wrenched at their insides; it tasted so foul they could not drink it. Then they radioed Earth for help, and began living off the make-up water. But Earth was not as experienced in emergency rocket send-offs in those days. The pleas for decent water for the men on the Moon grew weaker. The first rocket might have saved them, except its controls were erratic and it crash-landed five hundred miles from the dome. The second rocket carried the replacements, and when they entered the dome they found Tilton and Beck dead, cheeks sunken, skin parched, lips cracked and broken, dehydrated, dead of thirst. And within easy reach of the two dried-out bodies was twenty-five gallons of clear, pure—almost chemically pure—tasteless, odorless water, sparkling bright with dissolved oxygen.

Fowler and McIntosh finished their tea and radioed in at check time. They announced that night had overtaken them. A new schedule was set up, one with far more frequent radio contacts with Earth. And immediately they set about their new tasks. No more trips far from the dome, no surveying. They broke the telescope from its cover

and set up the spectrometer. Inside the dome they converted part of the drafting table to a small but astonishingly complete analytical chemical laboratory.

The sun was gone completely now, but off to the east several mountaintops still glistened like the last flame that shoots up from an expiring fire. In an hour the gleam disappeared and night was completely come.

The planners of the Moon survey from the very beginning recognized that night on the Moon presented a difficult problem. So they scheduled replacements to arrive when the Moon day was about forty-eight hours old. Thus the replacements had twelve Earth-days of sunlight on the Moon to get themselves ready for the emotional ordeal of fourteen Earth-days of darkness. Then once the long night was ended, they had two Earth-days of sunlight before the next replacements arrived. Such a system insured that the spaceship landed on the Moon in daylight and also allowed optimum psychological adjustment for the Moon men. Shorter periods of residence on the Moon were not feasible, since the full twenty-eight days were needed to prepare for the shuttle flight from Earth to the space station, from the space station to the Moon, and return. Then, too, at least one supply rocket a month had to be crash-landed within easy walking distance of the dome. The effort and money expended by the United States to do these things were prodigious. But



with the backing of the people, the project went ahead. Future property rights on the Moon might well go to the nation that continuously occupied it.

Fowler looked up from adjusting the telescope and said, "Look at that, Al." His arm pointed to the Earth brightly swimming in a sea of star-pointed blackness.

They saw the Western Hemisphere, white-dotted with clouds, and a brilliant blinding spot of white in the South Pacific off the coast of Peru where the ocean reflected the sun's light to them.

McIntosh said, "Beautiful, isn't it? I can just about see Florida. Good old Orlando. I'll bet the lemon blossoms smell good these days. You know, it looks even better at night than it does in day."

Fowler nodded inside his helmet as the two continued to watch the Earth. Fowler said, "You know, we've certainly gone and loused up a good old Earth tradition."

"What do you mean?"

"Well, picture it. A guy and his girl go out walking in the moonlight down there. They'd sigh and feel all choked up and gaze at the Moon and feel like the Moon was made for them alone. Now when they look up they know there's a couple of slobs sprinting around up here. It must take something away."

"I'll bet," chuckled McIntosh. "They must either get mad at us or feel very sorry for us."

Fowler dropped his gaze to the moonscape and looked around and

said, "It sure looks different here at night."

They studied the eerie scene. As always, it showed nothing but varying shades of gray, but now the tones were dark and foreboding. The sharp, dim starlight and soft Earthshine threw no shadows but spread a ghostly luminescence over ridge and draw alike. It was impossible to tell just where the actual seeing left off and the imagination began.

Fowler muttered, almost under his breath, "The night is full of forms of fear."

"What?"

"The night is full of forms of fear. It's a line I read some place."

They looked around in silence, turning the ungainly spacesuits. McIntosh said, "It sure describes this place. Never saw such a weird sight."

They finally shrugged off the fascination of the moonscape and got to work.

Several Earth-days passed. The two men kept busy making astronomical observation and checking out some of the minerals collected during the long day. They made short trips out into the region around the dome but they took no samples; they let the scintillation counters built into their suits do the probing for hot spots as they simply walked around. They never got too far from the dome or from each other. And often while they were outside striding through the moon-

dust on their separate paths, one of them would say, "How're things?" And the other would say, "O.K., how're things there?" The urge to hear a human voice rose powerful and often in the Moon night.

It was on one of these outside trips that their first real panic occurred. The two men were each about a hundred yards away from the dome and on opposite sides. McIntosh did not notice a telltale slight dip in the dust where a shallow crack lay almost filled with light flourlike particles. His foot went in. He twisted and fell on his back so that his caught leg would bend at the knee and not wrench the knee-joint of the suit. He hit with a jolt; his forward speed added to the normal speed of fall. The impact was not great but it clanged loudly inside the suit. McIntosh grunted, and said "damn," and sat up to free his foot. Fowler's voice sounded in his headphones. "You O.K., Mac?"

"Yeah," said McIntosh. "I fell down but I'm not hurt a bit. Things are fine."

"Mac," Fowler's voice was shrill. "You O.K.?"

"Yes. Not a thing wrong. Just took a—"

"For God's sake, Mac, answer me." Fowler's voice was a near scream, panic bubbling through it.

The fear was contagious. McIntosh yanked his foot out of the crevice, leaped to his feet, and ran for the dome shouting, "What is it, Walt. What's the matter. I'm coming. What is it?" And as he ran he

could hear Fowler screaming now for Walt to answer.

McIntosh rounded the dome and almost collided with Fowler coming in the opposite direction. The two slipped and skidded to a halt, clouds of dust kicking up around their feet and settling as fast as they rose. Once stopped, the two men jumped toward each other and touched helmets.

"What is it, Walt?" shouted McIntosh.

"What happened to you?" came Fowler's voice, choked, gasping. McIntosh could hear it both through the helmet and through his headphones. It sounded hollow.

McIntosh shouted again. "I took a little spill, that's all. I told you I was all right over the set. Didn't you hear me?"

"No," Fowler was getting himself under control. "I kept calling you and getting no answer. Something must be wrong with the sets."

"Yeah. It's either your receiver or my transmitter. Let's go in and check them out."

They entered the dome together and removed their suits. They wiped the sweat from their faces and automatically started to make tea, but they stopped. Power was in short supply during the night and hot water had to be held to a minimum. So they checked the radios instead.

They went over McIntosh's transmitter first, since he had had the fall. They soon found the trou-

ble. A tiny grain of silica shorted a condenser in the printed circuit. It was easily fixed and then the transmitter worked again. They put on the suits and went outside. But the shock they suffered was not so easily remedied. And thereafter when they were outside they were never out of sight of each other.

Time went by. The looming loneliness of the brooding moonscape closed ever more tightly around them. Their surroundings took on the stature of a living thing, menacing, waiting, lurking. Even the radio contacts with Earth lost much of their meaning; the voices were just voices, not really belonging to people, but emanating from some ominous creature poised just over the ridge. The loneliness grew.

On Earth a man can be deep in a trackless and impenetrable jungle, yet there is a chance a fellow human being will happen by. A man can be isolated on the remotest of desert islands and still maintain a reasonable hope that a ship, or canoe, or plane will carry another human being to him. A man sentenced to a life of solitary confinement knows for certain that there are people on the other side of the wall.

But on the Moon there is complete aloneness. There are no human beings and—what is worse—no possibility of any human beings. And never before had men, two men, found themselves in such a position. The human mind, adaptable entity that it is, nevertheless had to reach beyond its boundaries

to absorb the reality of perfect isolation.

The lunar night wore on. Fowler and McIntosh were out spreading their dirty laundry for the usual three-hour exposure to Moon conditions before shaking the clothes out and packing them away 'til they were needed again.

Fowler straightened up and looked at the Earth for a moment, then said, "Mac, did you ever eat in a diner on a train?"

"Sure, many times."

"You remember how the headwaiter seated people?"

McIntosh thought for a moment then said, "I know what you mean. He keeps them apart. He seats individuals at empty tables until there are no more empty tables; then he begins to double them up."

"That's it. He preserves the illusion of isolation. I guess people don't know how much they need one another."

"I guess they don't. People are funny that way."

They grinned at each other through the faceplates, although it was too dark to see inside the space-suits. They finished spreading the laundry and went into the dome together. Both of them had recently come to realize a striking thing. If one of them died, the other could not survive. It was difficult enough to preserve sanity with two. One alone could not last an Earth-day. The men on the Moon lived in pairs or they died in pairs. And if Fowler and McIntosh had thought to look

at each other closely, they would have noticed a few incipient lines radiating from the eyes. Nothing striking, nothing abnormal, and certainly nothing as intense as the far look. Just the suggestion of a few lines around the eyes.

The night had only two Earth-days to run. Fowler and McIntosh for the first time began to turn their thoughts to the journey home, not with longing, not with anticipation, but as a possibility of something that might happen. The actuality of leaving the Moon seemed too unreal to be true. And the cold harsh fact was that the rocket might not come; it had happened before. So though they dimly realized that in a mere four Earth-days they might leave the grim grayness behind, they were not much concerned.

A series of observations ended. Fowler and McIntosh sipped hot tea, drawing the warmth into their chilled bodies. Fowler sat perched on one end of a bench. McIntosh cupped the teacup in his hands and stood looking out at the lowering moonscape, wishing he could pull his eyes from it, too fascinated by its awfulness to do so. There was complete silence in the dome.

"Don." The word came as a gasp, as though McIntosh had called the name before he had completely swallowed a mouthful of tea.

Fowler looked up, mildly curious. He saw McIntosh drop the teacup, saw it bounce off the floor. He saw

McIntosh straining forward, taut, neck muscles standing out, mouth open, one hand against the clear plastic.

"Don. *I saw something move out there.*" The words were shrill, harsh, hysteria in every syllable.

Fowler landed beside him in a single leap and looked, not out the window, but at his face. At the staring, terror-filled eyes, the drawn mouth. Fowler threw his arms around McIntosh's chest and squeezed hard and said, "Easy, Mac, easy. Don't let the shadows get you. Things are all right."

"I tell you I saw something. A sudden movement. Near that hillock but at a greater range and to the right. Something moved, Don." And he inhaled a great shuddering gasp.

Fowler kept his arms around McIntosh and looked out. He saw only the jagged dim surface of the Moon. For a long moment he looked out, listening to McIntosh's gasping breath, a chill fear slowly rising inside him. He turned his head to look at McIntosh's face again, and as he did he caught a flicker of motion out of the corner of his eye. He dropped his arms and jerked his head back to look out as McIntosh screamed, "There, there it is again, but it's moved."

The two men, both panting, strained at the window. For a full minute they stood with every muscle pulled tight, gulping down air, perspiration prickling out of their scalps and running down over face and neck. Their eyes saw fantastic

shapes in the sharp dim light but their minds told them it was imagination.

Then they saw it clearly. About one hundred yards straight out in front of the window a tiny fountain of moondust sprayed upward and outward from a glowing base that winked out as swiftly as it appeared. Like the blossoming of a death-colored gray rose, the dust from a handspread of surface suddenly rose and spread outward in a circle and just as suddenly fell back to the surface.

"What is it?" hissed Fowler.

"I don't know."

They watched, the tension so great that they shuddered. They saw another one, bigger, out farther and to the left. They watched. Another, small, in much closer, the brief white base instantly flashing through shades of deeper reds and disappearing.

"Spacesuits," gasped Fowler. "Get into the spacesuits."

And he turned and jumped to the rack, McIntosh alongside him. They slipped into the cumbersome suits with the swift smoothness of long practice. They twisted the helmets on.

"Radio O.K.?" said McIntosh.

"Check. Let's look."

And the two jumped back to the window. The activity outside seemed to have stopped. They watched for six full minutes before they saw another of the dust fountains. After they saw it, they twisted their suits to look at each other.

They were bringing themselves under control. They were rationally trying to reason out a cause for what they saw.

"Any ideas?" said McIntosh.

"No," said Fowler. "Let's look out the other windows and see if we see anything."

They took up separate places at the two remaining windows.

"See anything?" said Fowler.

"Nothing. Just that hideous-looking terrain. I guess it's all on the other— Wait. There's one. Way out. I could just—"

"I've got one, too," said Fowler. "It's all around us. Let's call Earth."

They moved over to the radio. Fowler turned the volume high and McIntosh hit the On switch. Almost immediately they heard a voice, mounting swiftly in loudness. "Station Number One to Moon Station. Station Number One to Moon Station." Over and over it repeated the words.

McIntosh touched a microphone to his helmet, flipped the Transmit switch and said, "Moon Station to Station Number One. We hear you. Over."

"Thank God," came the voice. "Listen. The Leonid meteor swarm may hit you. Find cover. Find a cave or bridge and get out of the open. Repeat. Meteor swarm may hit you. Find cover. Over."

At the word "meteor" McIntosh swung to face Fowler. The two moved closer together to see into the faceplates. Each face broke into

a smile of relief at the knowledge of what was happening.

McIntosh touched the microphone to his helmet and said, "We're already in it. There is no cave or other shelter within forty miles. How long do you expect the shower—"

There was a thunderous explosion and a brilliant flash of light that seared the eyeballs of both men. Something heavy dropped on them and gently clung to the spacesuits. They struggled futilely against the softness that enfolded them. McIntosh dropped the microphone and flailed his arms. Fowler sought to lift off the cloying substance; he dropped to one knee and fought it, but it would not give. Both men fought blind; the caressing enfolding material brought complete blackness.

McIntosh felt something grip his ankle and he lashed out with his foot. He felt it crash against something hard, but something that rolled with his kick and then bore back against his legs and knocked him over. His arms were still entangled in the material but he tried to flail the thing that crawled on top of him. With a superhuman effort he encircled the upper portion of the thing with layers of the soft material and began to squeeze. Through the thickness of the material he felt the familiar outline of a helmet with a short flexible antenna reaching up from the back. And he realized he was fighting Fowler.

He felt Fowler pull away the

material that separated them. Then he heard Fowler's voice.

"Mac, it's me. The dome's punctured and fallen in on us. You hear me?"

"Yes," said McIntosh, gasping for air. "I didn't know what happened. You all right?"

"Yes. Let's get out of here. Shoulder to shoulder 'til we find the lock. Let's go."

They crawled side by side, lifting the heavy leaded plastic in front of them. They bumped into the drafting table and oriented themselves. They passed out through the useless lock and stood up outside and looked at the dome.

It is a terrible thing when a man's home is destroyed. The agony of standing and looking at the ruins of all a man holds near and dear is a heavy burden on the human heart. But on Earth a man can go elsewhere; he has relatives, friends, to turn to. His heart may be heavy, but his life is not in peril.

But Fowler and McIntosh were on the Moon. They looked at their collapsed dome and doom itself froze around their hearts. There was no one to turn to, no place to go. They stood alone on a frozen, shadow-ridden, human-hating world. They stood hand in hand with death.

They looked at the collapsed dome and the way it lay over the equipment they knew so well, softening the sharp angles, filling in the hollow spaces in the interior. The

equipment outside looked stark and awkward, standing high, silhouetted against the luminous grayness, looking forlorn. The antenna caught McIntosh's eye.

He swallowed heavily and said, "Let's radio Earth and give them the news. We were talking to them when we got hit."

Fowler dumbly followed him to a small box on the far side of the sled and watched him remove the mike and receiver from a small box. McIntosh faced out from the sled and held the receiver against one side of the helmet and the mike against the other. Fowler slipped behind him. They stood back to back, helmets touching, McIntosh doing the talking, Fowler operating the switches and listening to all that was said. The receiver was silent when Fowler turned it on. Earth was listening, waiting. He switched to Transmit and nudged McIntosh.

"Moon Station to Space Station Number One. Over."

In five seconds a voice came back. "Pole Station to Moon Station. Space Station Number One is out of line-of sight. What happened? You all right?"

"Yes. Meteor punctured dome. We're outside. Over."

It was considerably more than five seconds before the voice came back, quieter but more intense. "Can you fix it?"

"We don't know. We'll go over the damage and talk to you soon. Out."

McIntosh dropped his hands and Fowler turned the switch off. "Well," said McIntosh, "we'd better see how bad it is. They may want to call the whole thing off."

Fowler nodded. Getting the sled and dome and equipment to the Moon had called for prodigious effort and staggering cost. It could not be duplicated in a hurry. Their replacements were already on the way. The dome had to be operating if they were to stay. And the spaceship could only carry two men back.

"Let's look it over," said Fowler. As they turned to climb up on the sled a fountain of dust sprang up ten feet to their right. They looked out over the sullen moonscape; the meteors were still falling. But they didn't care. They climbed up on the sled and carefully picked their way on top of the collapsed material to where they had been standing when the meteor struck. They pulled out several folds and found the hole. They inspected it with growing excitement.

The hole was a foot in diameter, neatly round. Around the perimeter was a thick ridge charred slightly on the inner edge where the thermoplastic material had fused and rolled back. The ridge had strengthened the material and prevented it from splitting and tearing when the air in the dome rushed out. The hole in the inner layer measured about eighteen inches in diameter and the encircling ridge was even thicker.

Fowler held the hand-powered



flashlight on the material surrounding the holes while he examined it carefully. "Mac," he said, "we can fix it. We've got enough scrap dome plastic to seal these holes. Let's see if the meteor went out the bottom."

They moved the holes around on the floor of the dome and found a four-inch hole through the plastic floor. Looking down it, they could see a small crater in the Moon's surface half-filled with a white solid.

McIntosh said, "It went through one of the batteries, but we won't miss it. We've got some scrap flooring plastic and some insulation around. We can fix this, too. Our make-up air is in good supply. Don," he stood up, "we're gonna make it."

"Yes," said Fowler, letting the light go out. "Let's radio Earth."

They went back to the set and Fowler reported their findings. They could hear the joy come back in the man's voice as he wished them luck and told them an extra rocket with make-up air would be on the way soon. Then the voice asked, "What about the meteor shower?"

Fowler and McIntosh looked around; they had forgotten the meteors again. The spurts of moon-dust still sprang up; they could see them clearly against the gray and black shadows.

"They're still falling," said Fowler. "Nothing to do but sweat them out. Call you later. Out." And he and McIntosh sat down. A nation

sweat it out with them. An entire people felt fear strike at their hearts at the thought of two men sitting beside a collapsed dome amidst a shower of invisible cosmic motes traveling at unthinkable speeds. But though the entire nation felt the horror of their position and wished them well with all its heart, it was not of the slightest aid to the two men on the Moon.

Quiet they sat and dumb. The meteors, forgotten for a moment, were to them now a part of the foreboding moonscape, challenging the presence of men in such a place. A mere light touch from a cosmic pebble, and a human life would snuff out. They sat quiet and dumb looking at the moonscape grim as death. A touch on the hand, the foot, is enough; it would take so little. They were something apart from the human race, men, yet not men. For no man could be so alone as they, such a speck, a trifle, a nothing, so alone were they. Quiet they sat and dumb. But each man's heart beat thick and quick like a madman on a drum. And the meteors fell.

"Mac."

"Yes."

"Why do we sit here? Why don't we fix it?"

"Suppose it gets hit again?"

"Suppose it does. It'll be hit whether it's collapsed or full. At least we'll have these holes patched. Maybe it'll be easier for the next team. Let's patch the holes anyway and then see what's happening."

McIntosh stood up. "Of course," he said. "We can get that much done no matter what happens."

Fowler stood up and began to turn to the sled to climb up. A tiny spot of brightness suddenly appeared on McIntosh's left shoulder. With a feeling of blackness closing in on his body, Fowler flung himself at McIntosh and clamped a hand over the spot where the glow had been. The weight of his body knocked McIntosh down but Fowler clung to him, kept his hand pressed firmly against the spot where the meteor had hit.

"Mac," said Fowler with the taste of copper in his mouth. "Mac. Can you hear me?"

"I hear you fine. What's the matter with you? You like to scared me to death."

"You got hit. On the left shoulder. Your suit must be punctured. I've got my hand over it."

"Don, I didn't even feel it. There can't possibly be a hole there or I'd have felt the air go, or at least some of it. Take a look."

They got to their feet. Fowler kept his hand in place while he retrieved the flashlight. He got it going and quickly removed his hand and showed the light over the spot to look. At first he saw nothing, so he held his helmet closer. Then he saw it. A tiny crater so small as to amount to nothing beyond a slight disturbance of the shiny surface of the suit. Smaller than the head of a pin it was and not as deep as it was broad.

He let the light go out and said in a choked voice, "Must have been a small one, smaller than a grain of sand. No damage at all."

"Good. Let's get to work."

They cut out two four-foot squares of dome material and several chunks of flooring plastic. They filled the bottom of the hole in the floor with five inches of insulation. They plugged in a wedge-shaped soldering iron and melted the plastic and worked it in to the top three inches of flooring, making an undercut to seal the hole solidly. And the floor was fixed.

Fowler pulled over the squares of dome material while McIntosh adjusted the temperature of the iron to that just below the melting point of the material. Fowler placed the first square inside the hole in the inner layer. He ran the hot blade around the ridge of fused plastic. It sealed well; the thick, leaded, shiny, dome material stiffly flowed together and solidified. Fowler sealed the patches in place with a series of five fused circles concentric to the hole and spaced about three inches apart. The inner hole was hard to work with, for he had to reach through the outer hole, but he managed it. The outer hole went fast. And when they finished they were certain that the dome was as good as ever.

They stood up from their work and looked around. Out onto the moonscape they looked long and carefully. And nowhere could they

see one of the dread dust fountains. Slowly and carefully they walked to the edge of the sled and dropped off. They sat down and looked some more, carefully preventing their imaginations from picturing things more fantastic than what was already there. After ten minutes there was no doubt about it, the meteor shower was over.

"Let's blow her up," said Fowler.

McIntosh checked the heated outlet from the air cylinder and then passed current through the coils that heated the cylinder itself. At his O.K., Fowler cracked the valve and air began to flow into the dome. They watched it carefully as it rose, looking for the tell-tale white streams that told of a leak. There were none detectable in either layer. And in half an hour the dome stood full and taut with a good five pounds pressure inside. They went in through the lock together.

McIntosh started the light tube while Fowler began a check of the gauges. In ten minutes it was apparent that things were in order. The dome was warming up too, so they took off their helmets, keeping a wary eye on the gauges. Soon they took off their suits.

The radio was still on, so Fowler called in to Earth that everything was in order. The voice was warm and friendly, congratulating them on their work and passing on the reassurances of men everywhere. They learned that their replacements were on schedule, so far. Fowler signed off.

The two men looked up at the patch on the ceiling, with its corners dangling downward. They looked at each other and Fowler started to make tea. McIntosh walked to a window and as he got there his feet started to slip out from under him. He caught himself and bent to see what he had slipped on. He found a thin sheet of ice on the floor.

"Where'd this come from?" he asked.

Fowler looked over and smiled and said, "That's from the cup of tea you dropped when you saw the first meteor. Remember?"

"Oooh, yes." And McIntosh chipped it up and put it in the waste pot to be purified and used on the pottet.

They had their tea, and they slept long and restlessly. They picked up their work schedule, and very soon they could see the brightness on the mountain tops to the west. The sun was coming back.

But it brought no joy. They were beyond any emotional response to night or day. Bright gray or dark gray, it did not matter. It was the Moon they were on and the lightness and darkness were all the same.

On the second Earth-day of sunlight they spoke to the approaching spaceship and made preparations to leave. The laundry was all done and ready for use. The dome was tidy. Their last job was to brew tea and put it in the thermos to keep it hot for their replacements; they would need it.

They donned their spacesuits for

the last time on the Moon and went out the lock together. They watched the little flame in the black sky grow larger.

The ship landed and the dust settled immediately. Fowler and McIntosh walked slowly toward the ship; they did not hurry. The door in the side opened, a ladder dropped out, and two suited figures climbed awkwardly to the Moon's surface.

Before they had a chance to look around, McIntosh called, "Over here. The dome is over here."

The four men came together and shook hands. Fowler said, "You can see the dome there." He pointed to it a half mile away. "We've left some hot tea for you there. The terrain is pretty rough so watch yourself moving around for a few days. Good luck." They shook hands. The replacements headed for the dome while Fowler and McIntosh went to the ship and climbed in without looking back. They dogged home the lock, removed their suits, stretched out on the acceleration bunks, and called "O.K.," into the intercom.

"Right," said the pilot from his compartment. "Welcome aboard and stand by."

In a moment they felt the acceleration, steadily mounting. But it soon eased off, and they slept. For most of the five-day journey they slept. And if they had thought to look at each other during their few waking hours, they would have seen nothing unusual—a few incipient,

almost invisible lines around the eyes, nothing more. Neither Fowler nor McIntosh had the far look.

The ship reached the space station and tied to it. Fowler and McIntosh transferred to the shuttle and swiftly dropped toward Earth. They heard the air whistle as the air thickened.

The television cameras first picked up the ship as a small dot. People the world over craned forward to watch as the bellyskids touched the sand—people who did not know that the ship carried two Moon men who did not have the far look. The people watched the ship skid to a halt amidst a slowly settling cloud of dust.

And as they watched, the door amidships swung in. The sun slanted in through the door and showed two figures standing there. The figures moved to a point just inside the door and stopped. They stood there motionless, looking out for what seemed an interminable period.

As Fowler and McIntosh looked out the door, they saw the shimmering sands of the New Mexican desert. But they saw more than that. They saw more than home. They saw the spawning place of the human race. In a roaring rush of recognition, they knew they had done more than simply return to Earth. They had rejoined the human race. They had been apart and were now one again with that brawling, pesky, restless race in which all were brothers, all were one. This was

not a return to Earth. This was a return to the womb, to the womb that had nourished them and made them men. A flood of sympathy and heart-felt understanding poured through them as they stared out at the shimmering sands. The kinks and twists of personality fell away and left men of untrammelled mind.

Fowler and McIntosh looked at each other, nodded, and jumped out the door. They fell to their knees in the unaccustomed gravity. They quickly arose, knocked the dust from their clothes, and started walk-

ing to where the helicopters were waiting.

The zoom lenses on the television cameras went to work and the faces of Fowler and McIntosh side by side flashed across the country.

And the eyes were different. A network of deep tiny creases laced out from both corners of each eye. The crinkled appearance of the eyes made each man appear older than he actually was. And there was a look in those eyes of things seen from deep inside. It was a far look, a compelling look, a powerful look set in the eyes of normal men.

THE END

THE ANALYTICAL LABORATORY

The point-scores ran high on the May issue; it seems to have been a five-way fight all the way. However, it settled down with Ray Jones getting the 1¢ bonus for first place, and Bob Silverberg, with "To Be Continued" taking second-place bonus.

The score came out:—

PLACE	STORY	AUTHOR	POINTS
1.	Academy for Pioneers	Raymond F. Jones	2.11
2.	To Be Continued	Robert Silverberg	2.53
3.	Psoid Charley	John A. Sentry	3.40
4.	Thereby Hangs...	Varley Lang	3.41
5.	The Missionaries	Everett B. Cole	3.52

THE EDITOR.



THE REFERENCE LIBRARY

BY P. SCHUYLER MILLER

THE CHOSEN AND THE WORLD

My review, in the May issue, of Leigh Brackett's excellent "The Long Tomorrow" was followed promptly by a dissenting letter from a reader in Lancaster, Pennsylvania, Elinore Wackernagel. Lancaster is in the heart of the Amish country, of which western Pennsylvania is only a minor suburb, and Miss Wackernagel has some things to say about the way of life among the Plain people which really strengthen, rather than weaken, Miss Brackett's book. The shortcoming is entirely mine, for I wasn't very clear in de-

picting the Amish-based society of "The Long Tomorrow." For good measure, "Plain and Fancy," the excellent musical comedy based on the Amish, has been in town to round out the picture.

In "The Long Tomorrow," you'll remember, we are taken a little way into the future, after atomic warfare has destroyed most of America's cities. A new society has grown up from the agrarian roots of the Amish and Mennonite farmers, and one of its basic teachings—already deeply rooted in the Amish way of life as we see it now—is fear and hate of cities and everything that

went on in them, including the science and industry of pre-war days, which are blamed for bringing on the destruction of the war. But there are rumors of a secret city of scientists, hidden away somewhere in the hinterland—Bartorstown—and of an underground movement of adherents of this forbidden way of life. The story of "The Long Tomorrow" is that of two boys who go looking for Bartorstown and find it strangely disappointing, and disturbingly like what they have left behind.

I am not concerned here with Miss Wackernagel's criticisms of the present-day Amish society as she sees it around Lancaster. I don't know it well enough for any personal comments. But taking what she says at face value, it seems to me that it only strengthens Miss Brackett's portrayal of the future society of Chosen People set against the World.

We are assuming, remember, that the cities have been smashed overnight. They were smashed because they were the nuclei of our industrial civilization: here are the mills to process raw materials, to fabricate parts and finished products, the research centers and the universities, the co-ordinating and planning brains. With all these gone, suddenly, overnight, where do you look for the people who can carry on with the least disturbance, the least change, and build a new culture without cities? Leigh Brackett says they are the successful subsistence farmers, many or most of whom are still using—at near-ultimate efficiency

—the agricultural methods of a century or more ago.

A society cannot live without food. It can't very well be mass-produced food—wheat by the square mile, beef, pigs, corn—when the whole machinery of processing and distribution are gone. What you must have is a farm society which produces all the necessities of life, about as abundantly as it can be done without fertilizers and mechanization. And the people who are doing just that most successfully are the Plain People of Pennsylvania, and others of their way elsewhere.

These people are a hard-shelled society within our society. In many respects they are "behind the times": certainly they are different from the rest of us. *And they deliberately perpetuate and treasure that difference*, thereby leading to the friction which Miss Wackernagel deplores. To quote from one of the best numbers in "Plain and Fancy": "We know who we are, mister! We know what is right!" There is a qualification implied here: "for us."

It takes a Chosen People to ride with their society basically unchanged through a Time of Troubles. It takes a congruent, well integrated society in which every member knows exactly what is expected of him—"who he is." It takes a conviction that everyone else is out of step. Because any suburban householder will tell you that once you let the neighbors' kids run back and forth through the hedges, those hedges

won't last long and neither will the lawn.

When you have this attitude reinforced religiously with a conviction that you have a divine mandate to do things your way, and that by definition "the World" is wrong-minded and godless in direct proportion to the degree that they're different from you, the combination is hard to beat. The most disturbed, unhappy Jews, Catholics, Protestants, and I suppose Moslems, Buddhists and Voodooists, are the ones who have let down the boundaries and opened paths through the hedges here and there, thinking for themselves and choosing their own codes of behavior instead of following the pattern prescribed by tradition for their own particular variety of chosenness. And the Plain People are a religious society, which is probably what has given them the social strength to stand still like a rock in the current for two hundred years, letting the World break itself up against them without showing much wear.

As a corollary to the Chosen People conviction, you almost have to have a kind of lawlessness, as seen from outside. The People protect those of their own kind who have broken the World's laws, partly because it is a question of the People against the World, partly because they do not recognize the World's authority to make laws restricting them. By the same token, outsiders may not be entitled to the same ethical protection that the People

have—though this is far from the rule. Two hundred years ago you could walk into the longhouse of an Iroquois Indian, with whom you were at war, and enjoy the hospitality of food and a bed—but watch out for your scalp the moment you were out of town!

"In an enforced agrarian economy," Miss Wackernagel concludes, "I'll place my money on a Penn State Ag graduate, any time." I'll go along—provided you have somehow preserved a society which can make tractors, refine petroleum to gasoline, make fertilizers and insecticides, enrich cattle feed with antibiotics, supply automatic refrigeration, and all the rest. But with all these gone, the solid, unshaken rock of agrarian society will be the subsistence farmer who has learned farming without these things. He may be the "hill-billy" who can support a large family on a few mountainside acres with a hoe and a mule. But to support large numbers of people well, he's going to have to live much as the Amish do—and that is Miss Brackett's taking off point.

What I failed to make clear in the review, is that the society based on this Amish way of life is just as hard-shelled, just as narrow, just as "Chosen Peoplish" as anything we can see around Lancaster now—in deed, more so, for it has suddenly become *the* one and only permissible way of life. "The Long Tomorrow" makes this beautifully and subtly clear, as I did not. (I have a prefer-

ence for letting authors develop their own best points.)

There's even a touch of Nigel Dennis' "Cards of Identity" in this, when you listen to the Amish song in "Plain and Fancy." "We know who we are, mister . . ." We have a firm, secure identity with survival value, while yours is continually shaken by doubts and fears. We can get along without you, but you can't get along without us.

I stand on my first judgment. I don't think "The Long Tomorrow" is intense enough and startling enough to be terribly popular as a science-fiction book, but I have an idea people will be discovering it with pleased amazement for a long time.

* * * *

You still have about six weeks to register for the 14th World Science Fiction Convention, to be held in New York over the Labor Day weekend, August 31-September 3. The place has changed: the convention will be at the Biltmore Hotel, where all the facilities such an affair needs can be and are concentrated on one floor. All rooms are air-conditioned, and in New York at the end of summer that means a lot. Most or all of the convention events will be scheduled in the afternoon and evening, so that you can stay up all night in the socializing phases of the convention, and still get some sleep.

Why do you go to conventions? Any conventions: American Chemi-

cal Society—Veterans of Foreign Wars—Society for Pennsylvania Archaeology—Hyborean Legion—Garden Clubs of America—take your pick. It's to meet people. And with as closely knit a gang as the science fiction crowd, you usually do it very effectively in the time you have. Nobody ever remembers the program at a convention: it's the people you met, the all-night festivities and arguments on everything from jazz of the future to writers of the past. And—if you can find it and afford it—you can find just about anything you want in New York, to facilitate and stimulate the socialization.

For that long weekend, friends, we will be the "Chosen People" in New York. Don't be an outsider. Get off the world with the rest of us.

SF: THE YEAR'S GREATEST SCIENCE-FICTION AND FANTASY, edited by Judith Merrill. Gnome Press, N. Y.; 1956; 352 pp. \$3.95. Dell, 35¢.

If the Bleiler-Dikty (now Dikty) annuals continue to backslide as they did this year, this new series edited by Judith Merrill is ready to fill the gap—and the pb edition is only thirty-five cents (thirty-six in Pennsylvania). I got galleys of the book just two days too late to make last month's column, and they don't include the credit pages, but I don't need to tell you that Miss Merrill

stands with Groff Conklin and Andre Norton among the anthologists who can do no wrong. You may qualify this now, because she has stuck to her guns and refused to leave out good stories that are appearing almost simultaneously in other collections: Avram Davidson's "The Golem" (a wonderful android tale), Shirley Jackson's "One Ordinary Day, With Peanuts," Mildred Clingerman's "Birds Can't Count," and of course Zenna Henderson's "Pottage," all from "The Best from F&SF."

A three-page "Honorable Mention" section at the rear helps to make up for the fact that many excellent stories are too long for this type of anthology. Orson Welles contributes an introduction that doesn't contribute anything the editor couldn't have said better. To make up for this, there is what might be called a "state of the cosmos" summation of the general state of health of the sf field as of the beginning of 1956.

The book begins with "The Stutterer," by R. R. Merliss, a first story in which an android and an intelligence agent solve a problem in human relations. "The Golem," which follows, is utterly different: wry, hilarious, underplayed—a gem. Robert Abernathy, in "Junior," contributes a comedy of genius among the polyps: who says only Bretnor and Kuttner and Brown can write humor? And from James E. Gunn, in "The Cave of Night," we have a variant on what was once a striking

plot-twist, still effective because of the psychology and good handling that have become more important than the gimmicked ending.

Emotional writing—in a far more legitimate sense than Bradbury's word-play—seems to be coming to the fore again in science fiction. Perhaps the best example in the book is Walter M. Miller's "The Hooper," in which a rubber-legged spaceman comes home. This is a little classic to set beside Edmond Hamilton's "What's It Like Out There?" And it is matched, or nearly matched, by Theodore Sturgeon's more complex "Bulkhead," with its strangely logical solution of the problem of partnership in space.

Mark Clifton's "Sense from Thought Divide" needs no introduction to readers of this magazine: maybe I'm a carper, but it seems to me a long way from being as good as the first of these stories of the poltergeist effect, mainly because it has a transitional flavor to it. We're somewhere between a thrill of discovery and a thrill of accomplishment. Zenna Henderson's "Pottage," of course, is one of a series that almost automatically belong in any collection: the People are by all odds the most appealing outworlders we've had.

The People are, in a degree, supermen. So is the hero of Algis Budrys' "Nobody Bothers Gus," which gives us the basic theme of Wilmar Shiras' "In Hiding" with an utterly different treatment. Then, to quite change the pace, Miss Merrill offers "The

Last Day of Summer," a bitter-sweet tale by the British writer, E. C. Tubb, of an old man ending his years in a cruelly kind society. This is another best within the "best," as is Shirley Jackson's "One Ordinary Day, With Peanuts," a fantasy by one of the most acceptably gifted short-story writers of the time—and one who doesn't condescend when using a fantastic theme. Then, pow!, comes a little fable from Willard Marsh, "The Ethicators," which throws our future in some serious doubt.

Mildred Clingerman's "Birds Can't Count" investigates the motivation of extra-terrestrials in her own inimitable way. This is the kind of smoothly told little tale that should be earning its author really big checks in the really big weeklies, and probably will. "Of Missing Persons," by Jack Finney, is a morality-tale of the frayed thread that man uses to climb to the ideal. Isaac Asimov, in "Dreaming is a Private Thing," has another of the best among the best, and another of his meticulously constructed societies: read it, then see the film of Budd Schulberg's "The Harder They Fall." And Damon Knight is right up there beside it with as disturbing a picture of abnormality gone vicious as anything since Fritz Leiber's classic: it's called "The Country of the Kind." It's matched by "The Public Hating" by that remarkable person, Steve Allen. And the book closes with a long story of a disturbed robot, "Home There's No Returning,"

which last year brought Henry Kuttner and C. L. Moore back with a bang.

We fans and completists rail and rant at the anthologist who uses something we already have in another book. But, for the new reader *and* the old, there's no substitute for a perceptively edited collection like this one, whose "best" stories really are good ones, not just the best of what nobody else has wanted.



ALTERNATING CURRENTS, by Frederik Pohl. Ballantine Books, New York. 1956. 154 pp. \$2.00; paper 35¢

In a collaboration of two talented writers like the Pohl-Kornbluth duo of "Space Merchants" and "Gladiator-at-Law" it's always a challenge and a puzzle to decide who contributed what. The fact that they keep rewriting, apparently right up to publication day, doesn't make the question any easier, and I'm not answering it here or anywhere. But in this collection of short stories by Frederik Pohl you'll find some very interesting other variations on the world-taken-over-by-advertisers theme.

The first of the ten stories in the book, "Happy Birthday, Dear Jesus," is one of the best and seems to be new here. It is so smoothly written that you will get well into it with the feeling that, like Sturgeon and Bradbury, Pohl is tossing in a non-

SF story . . . then a word here, another there, and you're in the middle of a satire on our commercialization of Christmas.

In the last yarn, "What to Do Till the Analyst Comes," we have the story of the product that took over society. In "The Tunnel Under the World" the market-researchers have hit upon an infallible way of testing new campaigns: this one has real bite to it, and as gimmicky a twist at the end as we've had in years. And "Rafferty's Reasons" shows us the brain-washing that has taken place in a society dedicated to the overthrow of automation.

Time-travel accounts for two stories, "Let the Ants Try"—give them a chance to start over and force mankind to abandon intraracial war—and "Target One" (eliminate Einstein before he can give the world his devastating $E = mc^2$). "The Mapmakers" is an interstellar puzzle yarn, solved—illegitimately—by a miracle but with lots of interesting little details. "Grandy Devil" is an immortality yarn with a touch of the Kuttners' Hogbens in it, and "The Ghost Makers" is a fantasy with the old *Unknown* flavor. "Pythias," which completes the list, is a filler about espowers. Most of the stories, by the way, are from *Galaxy*. Good middle-of-the-road SF throughout.



DOUBLE STAR, by Robert A. Heinlein. Doubleday & Co., New York. 1956. 186 pp. \$2.95

I certainly don't have to describe this Heinlein novel to readers of this magazine, who have been reading it as a serial only just finished. The book somehow got into the bookstores before the last installment appeared.

The "great impersonation" plot is an old one—I don't recall E. Phillips Oppenheim's thriller of that name well enough to remember who impersonated whom, but the general idea was the same—and what Heinlein handles best about it is the process of molding Lorenzo Smythe, ham actor, into John J. Bonforte, interplanetary politician—that and the little behind-the-scenes vignette of a very human emperor unbending. Aside from that, almost any of Heinlein's juveniles for Scribners has been more rewarding in detail, in characterization, in delightful situations, and in just about everything. Sorry.



FORBIDDEN PLANET, by W. J. Stuart. Farrar, Straus & Cudahy, New York. 1956. 184 pp. \$3.00; Bantam Books, New York. 1956. 35¢

I don't know who W. J. Stuart is, nor do the publishers of either the hard-back or the paperbound edition make clear his relationship, if any, to the MGM Cinemascope color film on which it is based—that's credited to Cyril Hume, from a story by Irving Black and Allen Adler. It should be a real spectacle, with just

about everything in it, and the novelization is quite a bit better than such things usually turn out to be. Besides, the film is big-budget enough to have Walter Pidgeon in it, apparently either as the narrator, space-surgeon Major C. X. Ostrow, or the mad scientist, Edward Morbius.

United Planets Cruiser C-57-D has gone to Altair 4 to find out what has happened to the crew of the *Bellerophon*, sent there to explore twenty years before. They are warned off by the sole survivor, Dr. Morbius, ignore his warning and land, are welcomed by a super-robot, find that Morbius has acquired a beautiful daughter, are shown the secrets of a lost race, are attacked by invisible, invincible monsters . . .

Pure Hollywood, with a fair amount of double-talk that could easily have been cleaned up by any messenger-boy who reads SF . . . but it just may make an entertaining hokum-variety film.



TALES OF CONAN, by Robert E. Howard & L. Sprague de Camp.
Gnome Press, New York. 1955.
218 pp. \$3.00

These are four unpublished blood-and-thunder yarns which the late Robert E. Howard left at his death. There is so little difference in plot between one Howard story and the next, that Sprague de Camp was able to change a few names and places and convert them into "lost" chron-

icles in the saga of Conan the Cimmerian, scattered through the years between "Rogues in the House" and "The People of the Black Circle." For good measure there's an introduction by yours truly, explaining one of the reasons why (I think) Conan has his cult, lately sworn to brotherhood as the Hyborian Legion.

As I've said before, the great difference between the authentic Conan tales and Sprague's revisions is that Howard obviously believed in his unbelievable hero, whereas Sprague tries to achieve the same effect by sheer art and formula, and somehow doesn't quite make it. He parries where Conan slashed; his Conan uses strategy where the real barbarian bulled ahead; the mechanism of the plot shows its bolts and springs from time to time, while in Howard's original tales it was hidden because, I dare say, Howard had no more idea how the story would come out than Conan did.

The first, quite short tale, "The Blood-Stained God," is a total loss: I didn't know Conan could be dull. The last three, and in particular "Hawks Over Shem" and the long novelette, "The Flame Knife," come very close to being the real mountain dew. (The fourth yarn is "The Road of the Eagles.") He picks up some wenches almost worth his while, hacks off even more heads than usual, but the ghouls and demons mainly gibber and make faces; they're not very convincing. Sorry, Legionnaires.

ELECTRONS, WAVES AND MESSAGES,
by John R. Pierce. Hanover
House, Garden City, N. Y. 1956.
318 pp. \$5.00

I don't know why Hanover didn't send me a review copy of this book, since Dr. Pierce, Director of Research (Electrical Communications) for Bell Telephone Laboratories, is better known in these pages as "J. J. Coupling," author of both articles and fiction which have pleased a lot of people. Since I am an ignoramus in electronics—let alone communication theory—I picked up the book with the idea of learning from it at leisure. Then John Campbell sent me an advance copy of a review by Dr. Frederick Emmons Terman of Stanford University, which appeared in the March Proceedings of the *Institute of Radio Engineers*, with the suggestion that some quotes by an authority might be in order here. And here they are:

"The author . . . is noted among his fellow electronic engineers for his ability to use mathematics imaginatively to create new electronic devices, and to analyze their behavior. For this work he receives such recognitions as the Morris Liebmann Memorial Prize of the IRE and election to the National Academy of Sciences. As an avocation, he has . . . developed quite a following as a writer for science-fiction magazines . . . and gets invited to join clubs of authors who write literature and not science.

"The merger of these schizo-

phrenic qualities . . . is unique among books that attempt to interpret science in a 'popular' manner. . . . It is a philosophical discussion of electronics written in simple and interesting language . . . characterized by a literary skill that is entirely absent from the usual book written by an engineer or scientist. . . . Every researcher, irrespective of how sophisticated, will find sections that will arouse his interest and broaden his horizons. At the same time, even the beginner will find much in the book that he can understand, and that is of value to him."

You'll find some pages here that seem familiar, since the same material was covered, perhaps a little less thoroughly, in articles for this magazine: the problems of communication with Mars, of radiation in a spacesuit, of communication statistics as applied to music and linguistics. Don't let the mathematics scare you off: I imagine you can read around it if you have to, or accept its results with confidence that they work. After all, Bell is making money out of them.



SECRETS OF SPACE FLIGHT, by Lloyd
Mallan. Fawcett Publications,
Greenwich, Conn. 1956. 144 pp.
Ill. 75¢; Arco Publishing Co.,
New York. 1956. \$2.00

This is a paper-backed pictorial companion to Lloyd Mallan's "Men, Rockets and Space-Rats" (Messner.

\$5.95), which I mentioned here last month or the month before. It covers more ground, goes farther—three chapters on spaceflight and one on flying saucers—and devotes more space and many, many more pictures to the actual accomplishments of our rockets pioneers than did the earlier book. That, if you recall, is the story of the *men* themselves.

Many of the most striking photos are by the author, who took a Rollei-flex as well as a Dictaphone with him on his 18,000-mile tour of our rocketry centers. The text, though necessarily meager, is authentic in what it covers and well written by an experienced journalist who has been a member of both the American Rocket Society and the British Interplanetary Society.

At the price, you can't afford to pass this up, and at any price I can't think of anything that quite fills the same place on my rocketry shelf. And the Arco hard-cover edition is inexpensive enough so that you can afford "one to keep and one to use."



REPRINT ROUNDUP

THE OCTOBER COUNTRY, by Ray Bradbury. Ballantine Books, N. Y. 1956. 277 pp. 50¢

At first Ballantine didn't intend to bring out a paperback edition of this revised, reduced, reprint of

Bradbury's first fantasy collection (originally "Dark Carnival"). They have now changed their minds.

I, ROBOT, by Isaac Asimov. New American Library, N. Y. 1956. 192 pp. 35¢

I can't conceive of your having waited this long for a paperback of Asimov's classic series on the positronic robots, but here it is.

ANIMAL FARM, by George Orwell. New American Library, N. Y. 1956. 128 pp. 25¢

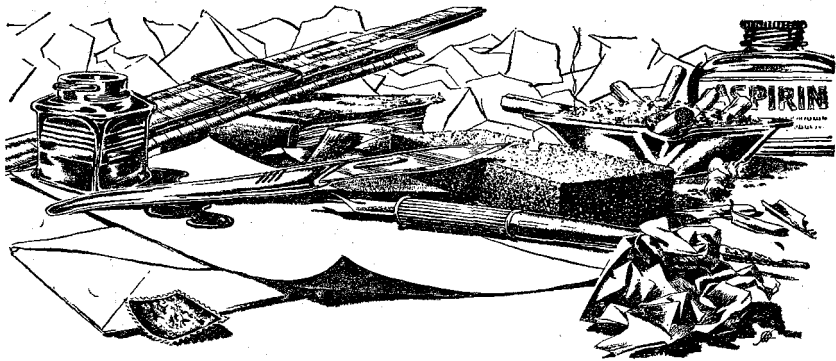
Fantasy, yes, but this savage allegory of totalitarianism is a classic you mustn't overlook.

A WAY HOME, by Theodore Sturgeon. Pyramid Books, N. Y. 1956. 192 pp. 35¢

A new pb publisher makes an auspicious lunge into science fiction with nine excellent stories by an unqualified master.

THE GOLDEN ARGOSY, edited by V. H. Cartmill & Charles Grayson. Bantam Books, N. Y. 1956. 405 pp. 50¢

This is simply a selection of twenty-five short stories, taken from a standard anthology. What is notable to us is that so many are fantasies and near-fantasies. They may be familiar, but it's a good investment.



BRASS TACKS

Dear Mr. Campbell:

A long time ago I stopped reading *Astounding*. How this deplorable state of affairs came about I cannot remember just now. However, I assure you that it is unlikely to happen again. That is, of course, only if all your editorials are as good as that one in the May issue. That editorial is the subject and the reason for this letter.

It is, as you say, part of the general definition of a science that experiments be repeatable. However this is not the definition of Science and more particularly, it is not the essence of the Scientific Method. In fact, as another Campbell (*What is Science?*) is at great pains to point out, there is no such animal as The Scientific Method. There is a general, higgldy-piggldy, slapdash kind of procedure followed by those who spend their time in laboratories, but

in no laboratory that I know of are there signs admonishing the employees to be sure to follow the Method. (With the possible exception of IBM's ubiquitous THINK)

Some scientists perform no experiments at all, Mathematicians and Logicians for example. Others perform very few, Astronomers and Philologists say. None do nothing but experiment. Most important is the fact that very few demand repeatability as the criterion of validation. Who, for example, will refuse to believe a word Margaret Mead says until she does it all over again? Does someone have to re-dig Ur before we are to believe Sir Leonard? Of course not.

In fact, when you get right down to it, the notion of repeatability is a mite vague. Suppose we have an experiment named "X." When X is repeated "Y," say, is supposed to

follow. It is supposed to follow because it did the last time, and the time before that and so on. But the complete description of X and Y demands a spatio-temporal location plus an experimenter. Strictly then, X and Y will never happen again but only something rather like X and Y. Like with regards to what? That they both occurred on Wednesday? That the experimenter had a hangover? What are the similarities to be thought of as relevant? As you can see, this can turn into a pretty messy epistemological business.

All this has wandered far from your editorial, it seems. The point of the whole thing is that if there are certain difficulties in saying exactly what Science and the Scientific Method are, one should be wary of pronouncing a discipline Scientific or un-Scientific. This is especially true when the terms are used with honorific or epithetical overtones.

I hope this is not a false dilemma, but it seems to me that Rhine is included either among the charlatans or among the scientists and no scientists are charlatans.

I think that whatever it is "Science" denotes, it would be a painfully restricted usage of the word to exclude Psionics. To call Rhine a mystic would expand the extension of that term to such an extent that even Whitehead would be moved to raise an eyebrow.—William J. Slatery, Jr., 414 West 118th Street, New York, N. Y.

If answers are either right or wrong, and Newton and Einstein disagree, which man was wrong, and which was a Scientist?

Hail, Selenians!

Or—no; you can't be. Or all the astronomers are horribly wrong. Anyhow, at long last I got around to glancing at the back cover of May Astounding, to hear a deafening roar on the surface of the moon. I know you couldn't have checked *that* ad! If you did . . . a deafening roar—in *vacuo*? Better repeat my seventh grade physics experiment with that ringing bell!—K. H. Cassens.

You're right! I didn't see the ad before publication.

Dear Mr. Campbell:

Among the many assumptions underlying my present precepts of psi phenomena is that such phenomena have many facets. Mental telepathy, as one of the many psi phenomena facets, in turn, must have many facets. Most students of mental telepathy have emphasized the ability of one person to perceive, mentally, *symbols* which another person is "thinking." There is sufficient evidence of an indicative nature to find such an idea reasonable. Thus, when speaking of mental telepathy, one immediately thinks of "Can he tell

me the *words* I am thinking?" Or, "Can he tell me the *words* I am looking at?" It is granted that *words* and other *symbolic* communication devices are important aspects of civilization. But, any well-grounded anthropologist or psychiatrist will agree that, whether or not words are used, the major share of communication is emotional in nature!

Thus, the question immediately arises: Does there exist a communication level which is similar in nature to the commonly accepted construct of mental telepathy but which is associated, instead, with channels of emotionality? In fact, this thought, combined with several physiological hints about the brain's structure leads one to predict that the accuracy of symbolological transfer of information via mental telepathy, between two people (or more), would vary directly with (1) amount of practice (retroactive inhibitional learning, et cetera) and (2) comparability of experience (and their interpretation).

I could probably write reams of paper presenting various assumptions on my part and attempting to validate the reasonability of such assumptions. Unless such a letter is desirable to you, I would prefer to let my introduction stand as it is and to present the idea which, when reworked, could possibly establish the "existence" of one aspect of mental telepathy and probably also provide an open door for further experiments of a communicable nature.

Experiment on the determination

of the existence of one aspect of mental telepathy—

Purpose: To establish, qualitatively, the existence of a hitherto unexplored form of communication between two or more people by means of an easily communicable experiment.

Experimental Components: (1) Two subjects who are emotionally dependent upon one another such as mother and son (or daughter), husband and wife, two excellent friends, et cetera, (2) Two electro-encephalographs with timed recording tape, (3) Two neutral rooms preferably in different buildings at some distance apart, (4) One carbon-dioxide (30% carbon-dioxide and 70% oxygen) gas administering equipment, (5) possible need for an electronic differential wave analyzer.

Experimental Preparation: The usual type of preparations for assuring that all extraneous factors are inhibited should be carried out. It is suggested that two people who are known to be extremely emotionally dependent upon one another be asked to volunteer for this experiment. On the day for the experiment or the time of day that the partner is to be subjected to the experiment, each should be guided to his separate, predetermined, room where each will have an electro-encephalograph attached.

Experimental Procedure: Time will be synchronized on electro-encephalographic recording tapes. One of the two subjects will be subjected to one or more repeated dos-

ages of carbon-dioxide gas mixture with the end in view of creating a maximum fear trauma (terror). Normally, three administrations of this mixture given within a twenty minute period, each to the point of near unconsciousness, will suffice for most people. During the whole proceedings, synchronized electro-encephalographic recording tapes must be continued.

What to Observe: If the electro-encephalograph is sensitive for the areas of communication presumed to be under study, then the following type of phenomena should be observed when the two synchronized tapes are compared. If a consistent squiggle occurs on one tape each time another squiggle occurs on the other tape, both being related to the periods of carbon-dioxide gas administration, then an established *non-symbolic* correlation under emotional stress, may be presumed to exist. Be it noted that the degree of correlation between squiggles is of major importance. The type of squiggle, the squiggle classification, the location of active brain areas, and so forth, are not important insofar as qualitative indications are concerned.

There are many variations on this idea. For example, d-N Methylamphetamine Hydrochloride—and perhaps similar drugs—should enable a *trained* person to accomplish much the same results without the necessity of introducing trauma.

Other instruments of fluctuation have been suggested such as the

cardiograph and the galvanometer.

A question might be raised as to who the willing subject might be. I am positive that several hundreds are willing to submit to either carbon-dioxide gas (and trauma) or are already trained to “think with purpose” under the influence of the above named drugs. Without previous knowledge relating to the sensitivity of the electro-encephalograph in this type of experimental work, it is quite difficult for me to predict the definite need for a form of electronic differential wave analyzer.

In conclusion, I feel, from my past experimental work, that appropriate modification of the preceding idea will result in positive evidence relating to establishment of an easily communicable set of experimental procedures. Your offices, of course, have probably extrapolated the enormous benefits to be derived from such a validation study. Especially so in the areas of medicine and psychiatry.

On the other hand, perhaps the preceding idea is not new. Perhaps others have already tried such an experiment and have not noted a significant correlation. I can only add that *because* of my own past personal experiences, I feel quite confident that such a correlation *can* be demonstrated!—Perry A. Chapdelaine, 226-D Perdido Court, Prichard, Alabama.

But of course everyone knows emotion isn't real!

Dear Mr. Campbell:

After reading the "Definitions" in the March, 1956 issue of *Astounding*, I began to think about something. I came up with two words which I feel need definitions. Scientifically speaking, what are *real* things and *unreal* things? I have offered definitions for both these words. I may, very possibly, be completely mistaken in my reasoning. If this is so, I would appreciate it, if you would set me straight.

After giving much thought to the subject, I discovered a few possible exceptions to my rules. Below are the definitions and probable exceptions. If you think they have any value, feel free to use them in any way you wish. Make any changes, corrections, et cetera you like.

DEFINITIONS

Real: Something that has mass and exists in three dimensions. (Has height, width, depth)

Unreal: Something possessing no mass and existing strictly in a plane. (A point, line, et cetera.)

POSSIBLE EXCEPTIONS

If these rules hold true, what then, is a *hole*? It has no mass. It seems to have three dimensions. A hole must, however, exist in something tangible—that is, something also of three dimensions and possessing mass.

What is *space*? Does it have three dimensions? It doesn't exist in a definite, tangible substance containing

mass, the way a hole seems to. Or does it? Is *space real*?

What about *force fields* and *gravity*? They exist in space. They seem very real, because they *affect* things other than themselves. Are they *real*?

What about *time*? Time has four dimensions. Possibly, all *real* things have four dimensions. Time may just be an *effect* created by many *real* things. (?)

This "crazy mixed-up kid" would appreciate any comment you would care to make.—David M. Dressler, 6835 Peach Avenue, Van Nuys, California.

And of course there is no such thing as real honesty, love, hatred, or cruelty either.

Dear Mr. Campbell:

I am writing this in regard to the April issue of your magazine. First of all, the ratings.

1. "Double Star" (Pt. 3), by Robert A. Heinlein.
2. "Legwork," by Eric Frank Russell.
3. "The Man Who Always Knew," by Algis Budrys.
4. "The Dead Past," by Isaac Asimov.

Secondly, I register official protest about the labeling of Lorenzo Smythe (In "Double Star") as a "conceited little pipsqueak." Conceited he may have been, but never, never could he be labeled a little pipsqueak. To

me, he is one of the noblest characters yet written on in science fiction. Sure he's conceited—but doesn't he have a right to be? Anyone who knows his job and does it as well as Lorenzo has my unconditional admiration. He has the guts to take on responsibilities and duties that he has never approached in his wildest dreams. He gripes about it, he almost backs down several times, but when the chips are down, he's in there plugging. He walks into the mouth of death, spits, and comes back out—often. For instance, do you honestly believe that you have the nerve to go into one of those Martian "nests," knowing that you have a fifty-fifty chance of being killed out of hand? Before you put him down as a conceited little pipsqueak, try to understand him. In Rudyard Kipling's words, "For all 'is dirty 'ide, 'E was white, clear white inside."

And finally, I am curious to know just what Mr. Asimov's point was in "The Dead Past." Offhand, I can think of at least two objections to the ending. The first is that human ingenuity being what it is, how long do you suppose it would be before somebody invented a scrambler circuit for the chronoscope, something that would turn the picture into a blur, the sound into gibberish? Not long, I think. What Man can do, Man can undo.

The second is a little more complicated. To start with, everyone would realize that he could be a peeping Tom into others' personal lives, but also that others would be

pretty likely to start peeping back. Nobody would like that. Also, society has rules, and one of them is that peeping Toms are to be shunned. And if you use your little chronoscope to peek at other people's boudoirs, you're liable to find out that somebody else used *his* little chronoscope to see you peeking. That won't go so well either. So pretty soon chronoscopes will be socially outlawed, their owners made "soshul leopards." And it's no good saying "Who would know?", because people have ways of finding out things like that. So where's your goldfish bowl? The world goes round, and it'll take a lot more than one invention, however potent, to stop it.—Colin Barrett, 5617 N. 18th Street, Arlington, Virginia.

Certainly everyone would use the chronoscope in self-defense. That's why everyone would have to have one.

Gentlemen:

Science Fiction has now been incorporated! On February 23, 1956 a Certificate of Incorporation was filed with the Secretary of State of New York for "World Science Fiction Society, Inc." The first named directors are: George Nims Raybin, Art Saha, and David A. Kyle. This membership corporation will be the sponsoring organization of the annual World Science Fiction Conventions.

Interested Fans should send \$2.00 to the World Science Fiction Society, Inc., P.O. Box 272, Radio City Station, New York 19, N. Y. for membership for the 14th World Science Fiction Convention to be held on Aug. 31-Sept. 3, 1956.

By sending this membership fee in promptly, fans can help make the forthcoming convention a success and help further the best interests of fandom in general.—George Nims Raybin.

*The Science Fiction Conventions
were getting to be big business;
it should have been done sooner!*

Dear Mr. Campbell:

Re your note in the "Brass Tacks" section of February's Astounding. The point you brought out concerning irritation devices, I think, is worth looking into a bit further.

The fact that such devices can produce a habit response is true; therefore, the device should be a bit more elaborate than merely having a sound warning.

Let us suppose that Q is out for a trip in his new car, and that his car is equipped with a little gizmo that gives out a screech at no particular time. Right now, Q is driving along a particularly monotonous stretch of road and his gizmo starts irritating him. Q reaches down to turn off the sound. Once again, he

settles back to his driving and again the screech. Soon, every time the screech goes off he automatically turns it off without changing his mental alertness one iota.

Now then, Mr. Campbell, you have convinced me that Q's irritating gizmo has failed to keep him alert because his mind has learned to respond to the sound without changing the level of alertness. SO, we must change the device somewhat.

The gizmo itself remains essentially the same. The change is relatively simple: A random timed electrical shock is experienced when the switch is turned off. That is, the shock only comes when the sound is sounding and then not every time it sounds. Also, the jolt produced is of varying intensity.

Now, when Q goes out for a drive, and the screech sounds, and Q reaches down to turn it off, he might get a shock. And, the shock might be strong and it might be mild. At any rate, Q is now a little more wary of turning off the sound because of the fact that he might experience pain.

This should work a bit better than just the sound because Q isn't apt to build up a habit-response to pain. N'est pas?—Andy Rakaczky, 3840 Mattie Place, Riverside, California.

*After the first shock, Q turns off the
gizmo with a monkey wrench. He
isn't going to have his car biting
the hand that bought it!*

(Continued from page 5)

ther medical consultations, because he has been assured, by the best available authorities, that medical technique has zero probability of helping. The only rational thing to do, if he trusts the competence of his doctors, is to look for non-medical help. *Any other course of action is irrational.*

It will be far more rational for John Brown to go to a hex doctor in the Pennsylvania hills, or to a South American Indian witch doctor, than to a licensed M.D., he has been authoritatively informed by doctors who know medical technology thoroughly, that medical technology cannot help. No one knows enough about the technology of a hex doctor to make such an authoritative statement; therefore it is perfectly rational to try *anything other than a licensed M.D.* A licensed M.D. is the one type of healer he *knows* cannot help him.

He may try mysticism, astrology, herbal remedies, psychotherapy, or any unlicensed, unorthodox, medically-rejected quack. The very fact that the quack has been rejected by medical science is John Brown's assurance that he has some idea that medical science does not have.

He will be perfectly sensible and rational to spend every nickle of his fortune in this way, so long as he does *not* spend it with regularly licensed physicians!

Only if John Brown does *not* trust his original doctors to have full and competent knowledge of medi-

cal technology can he have reason to visit another orthodox M.D.

John Brown is in an environmental situation of lethal stress, and overwhelming immediacy; he might donate his money to the American Cancer Society—but there'll be another John Brown's body mouldering in the grave, which is what concerns him.

Trying to legislate against the quack cancer doctor is trying to prevent the ancient human right to try anything, when all known methods fail. There isn't anything more ultimately hopeless than to seek to prevent a man who knows he has no chance within the orthodox framework from trying unorthodox methods. Furthermore, it's inherently unethical; if medical science cannot help the man—they have no business whatever trying to deny him help from any other source, whether they think that other source is valid or not.

The Panic Experiment is an inherent right of every living entity; three billion years of evolution shows it makes sense. The one thing that a wise therapy organization can do is to help the Panic Experimenters, and allow them to help humanity by making their Panic Experiments—their random, try-anything experiments—as efficiently useful in gathering understanding as possible.

It's an ancient, basic right, that right to try anything. If the medical profession wants to help—help that right constructively, instead of futile-

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ly, and quite pointlessly, trying to block it. The simple fact remains; if you can't help a man—don't try to keep him from seeking other help.

The medical profession has a tough problem, however. Naturally, no M.D. would be an M.D. if he felt that a hex doctor's training was more effectively curative. How then can a commission of M.D.'s evaluate hex doctors as to whether they are intentional quacks, or experimenters sincerely trying a different approach to a problem that medical science hasn't yet solved?

How is Panic to be evaluated? It consists, essentially, of acknowledging that no known method is adequate, and that an unknown must be tried. Suppose that the unknown is applied, and that shortly thereafter John Brown is found free of cancer.

Now how do we evaluate that? That medical efforts applied previously had finally taken effect? That the Unknown—let's say it was laying-on-of-hands by a hex doctor—was the cause of the effect? That

the change in his whole life-pattern that took place when he accepted the need for the Panic Experiment caused a change in some psychogenic factor that underlay his cancer?

The M.D. will reject the laying-on-of-hands; it isn't a universally repeatable experiment. It cannot be fitted into any framework of cause-effect logic now known. It isn't, and can't be made into, a teachable science.

It's an individual-vs.-group problem again. The individual hex doctor laid on his individual hands, and cured John Brown, individual. But what good does that do anyone else, if it isn't teachable? Understandably, John Brown isn't too concerned about that, just now; he's cured.

But there are other problems. There was an old doctor in Upper Michigan, years ago, who had his own mystic salve for wounds. (Not cancer.) Some weird gunk of his own. The local medical society tried several times to make him shut up practice, but didn't succeed. The salve was analyzed at the University of Michigan and rated worthless.

People liked his salve, and claimed it helped on ulcerated sores. The medical society objected strongly, back in the '20s and '30s, because it was perfectly ordinary salve, except for some highly unsterile, foul-smelling mold he put in it.

By all that was then known, putting a mold in a wound salve was not only nonsense—it was unsanitary, and wrong. How were the doctors then to guess that the old boy had, somehow, accidentally stumbled on some high-potency antibiotic producer? Understandably, they were intensely irked that the old fool with his crazy salve was so well-regarded by patients who didn't know any better. To the best of their sincere and honest judgment, the salve was, or should be, a menace to the health of the patients. It contained nothing beneficial, to the best of their knowledge, and did contain something that was very probably—to their best knowledge — decidedly unsterile. They would have been dishonest if they had not maintained that, in their best judgment, the salve was a menace. Certainly no honest doctor, in his right mind, in 1930 would have suggested to his patient that smearing a blue-green bread mold on his wound would stop the ulcerative infection!

It just happened to be true.

That, in essence, is the problem of the cancer quack. It's complicated by the fact that, as has been demonstrated repeatedly at Lourdes and other shrines, in some individuals,

for some unknown reasons, faith-healing of cancer does take place. If John Brown happened, for reasons unknown, to have developed enormous faith in "Dr." Johannus Q. Diddlewiddy," and Dr. Diddlewiddy gave him a series of injections of not-too-sterile salt water—John Brown could have been completely, thoroughly, and unarguably cured of his incurable cancer. Since present science looks to objective causes for observed events... how to evaluate Dr. Diddlewiddy's salt-water cure? Particularly if Dr. Diddlewiddy happened to be not a money-grabber quack, but an entirely sincere, however misguided, man? Suppose Dr. Diddlewiddy has that mysterious power of "laying on of hands"—which has been reported repeatedly—doesn't know it, and sincerely believes that his impure salt water is the curative agent?

Sure, the problem's tough. But it is *not* going to be banished by trying to rule out "cancer-cure specialists" by legal action. The W.C.T.U. tried to solve the problem of alcoholism by passing laws against alcohol.

The American Medical Association is going to get just about equally effective results in trying to legislate away the ancient human right to Try Anything when the panic situation arises.

Panic makes sense, then; legislating against panic action is faintly ridiculous, isn't it?

THE EDITOR.

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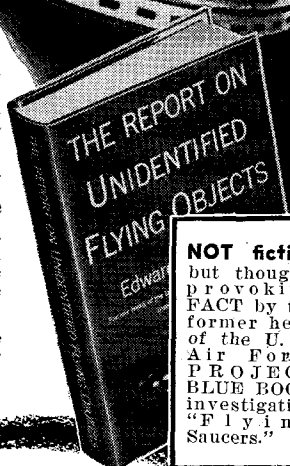
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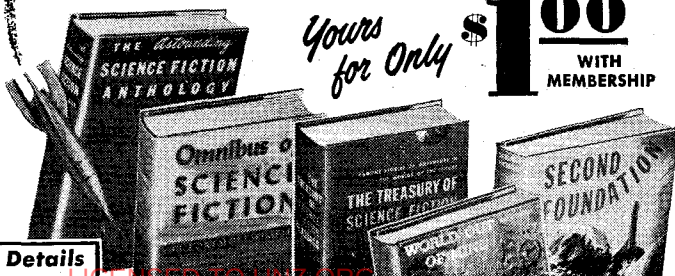
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